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ABSTRACT

This book provides a comprehensive overview of the competency based teacher education (CBTE) approach. The individual papers comprising the chapters were written at different times, but collectively they provide a sequential introduction and analysis of the concept. A chapter on definitions provides a system for analyzing a CBTE program by separating it into its components and defines Competency Based Teacher Certification (CBTC). Additional chapters provide dialogue both pro and con concerning the competency approach and specific aspects of it and an in-depth study of assessment, which some writers have identified as the most significant issue in competency based teacher education, at least in terms of its implementation. Models are described to provide the reader with examples of how the concept might be applied at two different levels--one for state agency personnel and the other for the development of staff in elementary and secondary schools. A model for a preservice CBTE program is omitted, but the text does contain descriptions and a discussion of such a program. (SK)

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A STUDY OF
COMPETENCY BASED TEACHER EDUCATION

PHILOSOPHY
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ISSUES
MODELS

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Teacher Preparation and Professional Development Services
DEPARTMENT OF EDUCATION
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TABLE OF CONTENTS

Page

CHAPTER I: INTRODUCTION 1

CHAPTER II: DEFINITIONS 7

Competency Based Teacher Education and Certification Definitions 9

CHAPTER III: PROS AND CONS 45

Competency Based Teacher Education The Pros and Cons 47

Deja Vu 167

CHAPTER IV: A CRITICAL ISSUE 175

The Nature of and Alternatives for Teacher Competency Statements and Implications for Assessment Techniques 177

CHAPTER V: MODELS 229

Planning for Competency Based Teacher Education At the State Level 231

Individualized Inservice Programs for Competency Development (A Systematic Approach) 281

CHAPTER VI: EVALUATION OF CBTE 359

Evidence on the Effectiveness of Competency Based Teacher Education Programs 361

CHAPTER I

INTRODUCTION

INTRODUCTION

Competency or performance based teacher education (CBTE) has played a prominent role in the professional literature and conferences throughout the country over the past several years. Most educators have probably been exposed to the concept in one form or another. In the case of teacher educators, only an exposure may not be enough. With state legislatures, state departments of education, teacher associations, and higher education institution administrators initiating actions involving the competency approach, it is essential that these groups as well as individual faculty members learn as much as they can about this approach in order that informed decisions be made. Decisions made by these groups in this regard may have significant implications for the future of teacher education.

Teacher educators may also feel an obligation to carefully study innovative ideas or reform movements directly related to their profession. The entire concept, or specific elements of it, may be of interest and possible value for a particular individual's program. A new proposal receiving considerable support warrants careful study by serious professionals so they may personally decide to accept or reject the basic tenets of the approach. The growth of competency type programs has been phenomenal. Seeds of the movement appear to have been planted at various times throughout the history of American education, according to some writers. Roots of the current emphasis on competencies have been traced to federal agency support of pilot programs such as the ten elementary education models in 1968. The current growth spurt in the competency movement has been attributed to further federal funding support as well as certain economic and societal conditions leading to an emphasis on accountability and school reform. In its current stage of development, it has great potential influence on American education.

In view of this significant effect of CBTE, it is quite discouraging to frequently encounter public discussions of CBTE which are being conducted without a common agreement or understanding of the principles of the competency approach. It is not uncommon to attend a conference and listen to a general commentary on CBTE by one person, followed by a description of an operational program by another person, and finding very little similarity between the two programs under discussion. It is equally frustrating for a critic to be told during such discussion that he/she does not understand the concept. Hopefully, after reading this text, one will have a better understanding of CBTE and will be able to discuss it more intelligently.

The purpose of this book is to provide a comprehensive overview of the competency approach. It deals with essential areas such as definitions and major issues, as well as models for state level planning and inservice programs. The individual papers comprising the chapters were written at different times, but collectively they provide a sequential introduction and analysis of the concept. An obvious omission is a model for a preservice CBTE program, but much has been written in this area and a variety of models are available. This text does contain descriptions and extensive discussion on the preservice program. This book may be used in a variety of ways by the reader. The chapter on definitions provides a system for analyzing a CBTE program by separating it into its components. It also provides a means of conceptualizing and subsequently designing a competency-based program by providing the designer an opportunity to identify and select those program components which he/she deems desirable. This chapter serves an important function in providing some clarity to the question of definition which ostensibly should result in more effective communication.

With a greater awareness of the variety of competency based teacher education programs and their possible components, the reader is in a better position to examine the positive and negative aspects of this approach in relation to the education of teachers. In analyzing or evaluating a given program, the reader can now consider the pros and cons with reference to a particular program's elements. The third chapter provides considerable dialogue, both pro and con, concerning the competency approach and specific aspects of it. This also is of value in the design process. This chapter was not intended to be read word for word, but serves as a reference if one is interested in a particular issue, or if one wishes a sampling of opinion on each of the issues.

The fourth chapter provides an in-depth study of assessment which some writers have identified as the most significant issue in competency-based teacher education, at least in terms of implementation. Again, a variety of approaches are identified since competency statements vary significantly, and implications for assessment in each case are explored.

The models described in chapter five provide the reader with examples of how the concept might be operationalized at two different levels. The state planning model is from the perspective of state agency personnel, whereas the inservice model is one approach to applying the concept to development of staff in elementary and secondary schools.

Much of the discussion of the issues in the pros and cons chapter reflects the biases of individuals and is not based on much experience with CBTE programs. The claim that it is "dehumanizing" on the one hand, and "personalized" on the other, are conclusions (or predictions) drawn from a thin experiential base. The last chapter is an attempt to gather evidence on how the programs are actually functioning. The information presented in that chapter is based on experience with the programs, not assumptions about what it will or will not do, and thus provides a contrast with the pros and cons section. Although such information is not great in quantity, it does provide some indication of the outcomes of such programs.

Although the purposes of this book have been described, the specific objectives have not been delineated. Hopefully each of you will derive from it what you specifically need and anticipated, and will find it to be of value as a reference in the future.

CHAPTER II

DEFINITIONS

COMPETENCY-BASED TEACHER EDUCATION AND CERTIFICATION DEFINITIONS

SYNTHESIS AND SCHEMA

TABLE OF CONTENTS

Page

INTRODUCTION 13

COMPETENCY BASED TEACHER EDUCATION 14

Definitions 14

Synthesis of CBTE 29

COMPETENCY BASED TEACHER CERTIFICATION 37

Definitions 37

Synthesis of CBTC 40

Introduction

The concept of competency-based teacher education and certification is currently one of the most frequently discussed and controversial subjects in teacher education. A controversy within this movement is one of definition. Just what is competency-based (or performance-based) teacher education and certification? As an attempt to assist those who wish to become informed about this topic, a number of definitions have been assembled in this document.

An attempt has also been made to synthesize the definitions and provide the reader with a concise yet comprehensive overview of the elements of the definitions. A very real problem exists, however, in that some programs will insist that certain elements are not necessary for a CBTE program, while others will insist that these same elements are absolutely essential. Some have concluded that there is no single type of CBTE program, but many types, hence, it is a multiple concept with as many definitions.

Facing the fact that we do not have a completely agreed upon set of criteria for defining the concept, the problem becomes one of synthesizing without violating commonly accepted, yet opposing, viewpoints. Two different approaches to synthesis have been attempted here. In the case of competency-based teacher certification, a continuum is provided to illustrate the variety of state approaches. In the case of competency-based teacher education, a linear relation among programs was not observed, therefore, a profile approach was developed.

The continuum and profile are not offered as precise definitions. They are meant instead to give those unfamiliar with the competency approach an overview of the alternative models. Also, for those states and institutions already involved in an operational program, the continuum or profile may assist in defining that particular program and place it in the perspective of other alternative models or approaches.

Competency-Based Teacher Education

Definitions

#1. In performance-based programs performance goals are specified, and agreed to, in rigorous detail in advance of instruction. The student must either be able to demonstrate his ability to promote desirable learning or exhibit behaviors known to promote it. He is held accountable, not for passing grades, but for attaining a given level of competency in performing the essential tasks of teaching; the training institution is itself held accountable for producing able teachers. Emphasis is on demonstrated product or output.[1]

Essential Elements

In the State of the Art Publication[1] December 1971	"Essential Defining Characteristics of PBTE" as viewed by the AACTE Committee[2]
A teacher education program is performance-based if	
1) Competencies to be demonstrated by the student are	1) Competencies to be demonstrated by the student are
•derived from explicit conceptions of teacher roles,	•derived from explicit conceptions of teacher roles in achieving school goals,
	• supported by research, curriculum and job analysis, and/or experienced teacher judgment,
•stated so as to make possible assessment of a student's behavior in relation to specific competencies, and	•stated so as to make possible assessment of a student's behavior in relation to specific competencies, and
•made public in advance.	• made public in advance.

[1] Stanley Elam. Performance-Based Teacher Education: What is the State of the Art? PBTE Series: No. 1. Washington, D.C.: American Association of Colleges for Teacher Education, 1971. pp. 1,2,6,7,8.

[2] AACTE "'Essential Defining Characteristics of PBTE' as Viewed by the AACTE Committee" in Achieving the Potential of Performance-Based Teacher Education: Recommendations, PBTE Series: No. 16. Washington, D.C.: American Association of Colleges for Teacher Education, 1974. pp.32,33.

2) Criteria to be employed in assessing competencies are ·based upon, and in harmony with, specified competencies, ·explicit in stating expected levels of mastery under specified conditions, and ·made public in advance.	2) Criteria to be employed in assessing competencies are ·based upon, and in harmony with, specified competencies, ·explicit in stating expected levels of mastery under specified conditions, and ·made public in advance.
3) Assessment of the student's competency ·uses his performance as a primary source of evidence, ·takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behaviors, and strives for objectivity.	4) Assessment of the student's competency ·uses his performance as a primary source of evidence, ·takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behavior, strives for objectivity, and facilitates future studies of the relation between instruction, competency attainment and achievement of school goals.
4) The student's rate of progress through the program is determined by demonstrated competency rather than by time or course completion.	5) The student's rate of progress through the program is determined by demonstrated competency.
5) The instructional program is intended to facilitate the development and evaluation of the student's achievement of competencies specified.	3) The instructional program provides for the development and evaluation of the student's achievement of each of the competencies specified.

Note: Underlining used to cite differences in the two analyses.

These are generic, essential elements. Only professional training programs that include all of them fall within the AACTE committee's definition of PETE.

Also from the State of the Art Publication, 1971:

Implied Characteristics	Related, Desirable Characteristics
1. Individualization	1. Field Setting
2. Feedback	2. Broad Base for Decision Making
3. Systemic Program	3. Protocol and Training Materials
4. Exit Requirement Emphasis	4. Student Participation in Decision Making
5. Modularization	5. Research-Oriented and Regenerative
6. Student and Program Accountability	6. Career-Continuous
	7. Role Integration

#2. Criteria for Assessing the Degree to Which Professional Preparation Programs are Competency-Based

Competency Specifications

1.0) Competency statements are derived from and linked to an analysis of job definition and/or a theoretical formulation of professional responsibilities.

2.0) Competency statements describe outcomes expected from the performance of profession-related functions, or those knowledges, skills, and attitudes thought to be essential to the performance of those functions.

3.0) Competency statements are phrased so as to facilitate criterion-referenced assessment.

4.0) Competencies are treated as tentative predictors of professional effectiveness, and subjected to continual validation procedures.

5.0) Competencies are specified and made public prior to instruction.

6.0) Learners completing the CBE program demonstrate a wide range of competency profiles.

Instruction

7.0) The instructional program is derived from and linked to specified competencies.

8.0) Instruction which supports competency development is organized into units of manageable size.

9.0) Instruction is organized and constituted so as to accomodate learner style, sequence preference, pacing, and perceived needs.

10.0) Learner progress is determined by demonstrated competency.

11.0) The extent of learner's progress in demonstrating competencies is made known to him throughout the program.

12.0) Instructional specifications are reviewed and revised based on learner feedback.

Assessment

13.0) Competency measures have validity in relationship to competency statements.

14.0) Competency measures are specific, realistic, and sensitive to nuance.

  14.1) Procedures for measuring competency demonstration assure quality and consistency.

  14.2) Competency measures allow for the influence of setting variables upon performance.

15.0) Competency measures discriminate on the basis of standards set for competency demonstration.

16.0) Data provided by competency measures are manageable and useful in decision making.

17.0) Competency measures and standards are specified and made public prior to instruction.

Governance and Management

18.0) Statements of policy exist that dictate in broad outline the intended structure, content, operation and resource base of the program, including the teaching competencies to be demonstrated for exit from the program.

19.0) Formally recognized procedures and mechanisms exist for arriving at policy decisions.

  19.1) A formally recognized policy making (governing) body exists for the program.

  19.2) All institutions, agencies, organizations, and groups participating in the program are represented in policy decisions that affect the program.

  19.3) Policy decisions are supported by, and made after consideration of, data on program effectiveness and resources required.

20.0) Management functions, responsibilities, procedures, and mechanisms are clearly defined and made explicit.

  20.1) Management decisions reflect stated program philosophy and policy.

  20.2) The identified professional with responsibility for decision has authority and resources to implement the decision.

20.3) Program operations are designed to model the characteristics desired of schools and classrooms in which program graduates will teach.

20.3a) Job definitions, staff selections, and responsibility assignments are linked to the management functions that exist.

20.4) Formally recognized procedures and mechanisms exist for arriving at the various levels of program management decisions.

Staff Development

21.0) Program staff attempt to model the attitudes and behaviors desired of students in the program.

22.0) Provisions are made for staff orientation, assessment, and improvement.

23.0) Staff development programs are based upon and engaged in after consideration of data on staff performance.

Total Program

24.0) Research and dissemination activities are an integral part of the total instructional system.

24.1) A research strategy for the validation and revision of program components exists and is operational.

24.2) A data-based management system is operational.

24.3) Procedures for systematic use of available data exist.

25.0) Institutional flexibility is sufficient for all aspects of the program.

25.1) Reward structure in the institution support CBTE roles and requirements.

25.2) Financial structure (monies and other resources) in the system support collaborative arrangements necessary for the program.

25.3) Course, grading, and program revision procedures support the tentativeness necessary to implement the program.

26.0) The program is planned and operated as a totally unified, integrated system.

National Consortium of CBE Centers, August 1974.

# 3. A competency-based teacher education program has been defined as a program which specifies the competencies to be demonstrated by the student, makes explicit the criteria to be applied in assessing the student's competencies, and holds the student accountable for meeting those criteria.

James M. Cooper, and Wilford A. Weber. "A Competency-Based Systems Approach to Education," Competency-Based Teacher Education: A Systems Approach to Program Design. Edited by James M. Cooper, Wilford A. Weber, and Charles E. Johnson. Berkeley, California: McCutchan Publishing Corporation, 1973. Chapter 1, page 14.

# 4. Characteristics of competency-based instruction: "(1) specification of learner objectives in behavioral terms; (2) specification of the means of determining whether performance meets the indicated criterion levels; (3) provision for one or more modes of instruction pertinent to the objectives, through which the learning activities may take place; (4) public sharing of the objectives, criteria, means of assessment, and alternative activities; (5) assessment of the learning experience in terms of competency criteria; and (6) placement on the learner of the accountability for meeting the criteria."

Robert W. Houston, and Robert B. Howsam (Editors). Competency-Based Teacher Education: Progress, Problems, and Prospects. Palo Alto: Science Research Associates, Inc., 1972. pp. 5,6.

#5

1) Competency-Based Teacher Education (CBTE) -- Respective state educational agency approval of a teacher education preparation program which:

   a. Offers within a designated teaching or educational specialist area for which the state educational agency issues a professional certificate or license.

   b. Designs to evaluate the degree of teaching competence of the students upon entry to, and at progressive points throughout the approved program, and to provide students with an opportunity to acquire proficiency in areas of identified deficiency.

   c. Includes an assessment component to verify the satisfactory attainment of the specified "exit" competencies.

2) Performance-Based Teacher Education (PBTE) -- Synonymous with competency-based teacher education.

Pennsylvania Department of Education. "Competency-Based Teacher Certification in the United States," (Harrisburg: 1973.) p.1.

6. PERFORMANCE OR COMPETENCY? As one talks to proponents of competency-based and performance-based teacher education terminology, it becomes abundantly clear that they refer to the same movement. Advocates of performance-based terminology refer to the way in which teachers demonstrate teaching knowledge and skills. That demonstration is observable (and their objectives are to "write," "do," "describe;" not "understand" or "perceive" which are nonobservable). Further, performance reminds us that knowledge of content and teaching strategies is not sufficient in teaching -- overt action is important.

Competency-based emphasizes a minimum standard; it adds criterion-levels, value orientations, and quality to the definition of the movement. While competency advocates note three levels for criteria -- cognitive, performance, and consequence -- they press for the latter as the most significant measure of effectiveness. Performance advocates, also recognizing consequence as the ultimate test of an individual's effectiveness, point out that many intervening variables affect results (pupil ability, interest, motivation, availability of resources). They stress that our present understanding of these variables and our inability to control them adequately in field settings preclude consequence objectives as realistic requirements. Thus, objectives requiring performance-based is more descriptive as a generic name for this movement.

Both performance-based and competency-based express important elements of the movement -- one focusing on objectives, the other on criteria. Both are useful, not conflicting.

W. Robert Houston. Strategies and Resources for Developing a Competency-Based Teacher Education Program. Multi-State Consortium on Performance-Based Teacher Education. 1972. pp. 25,26.

7. "Performance-based" is a term applied to teacher education programs, as well as other programs having (a) pre-specified objectives (competencies), (b) techniques for assessing the achievement of those objectives, and (c) decision-making regarding training needs based on successful mastery of objectives. The terms "competency-based" and "criterion-referenced" are roughly synonymous with "performance-based" as descriptors of teacher education programs. It should be noted that wide agreement has not been reached as to the characteristics of a performance-based teacher education program. Many authorities consider several conditions in addition to the three described above as necessary. However, it is doubtful that any teacher education program would be considered to be performance-based without (a) pre-specified objectives (competencies), (b) techniques for assessing the achievement of those objectives, and (c) decision-making regarding training needs based upon mastery of those objectives.

Fred Daniel, Associate for Planning, Florida Department of Education. " 'Performance-Based' Does Not Mean a Teacher Education Program is Good -- It Just Means It Is Easier to Tell." September 16, 1971.

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8. The process of designing a competency-based program of initial teacher education requires specifying in advance expected outcomes in terms of competencies to be demonstrated by graduates of the program, developing learning opportunities and environments expected to facilitate students' progress toward specified outcomes, and constructing and using evaluating procedures and instruments directly relevant to the stated competencies. In a well designed program, the result of these steps is a system where feedback channels are busy conveying evidence on the functioning and effect of the system.

Margaret Lindsey, Teachers College, Columbia University. "Performance-based Teacher Education: Examination of a Slogan." Journal of Teacher Education. Fall 1973, Volume XXIV, No. 3. pp. 181, 182.

#9.

Competency-Based Teacher Education

1) A system of teacher education which has its specific purpose the development of specifically described knowledge, skills, and behaviors that will enable a teacher to meet performance criteria for classroom teaching. Presumably, each competency attained by the preservice teacher is related to student learning and can be assessed by the following criteria of competence:

   a. knowledge criteria that assess the cognitive understandings of the teacher education student;

   b. performance criteria that assess specific teaching behaviors; and

   c. product criteria that assess the teacher's ability to examine and assess the achievement of his or her pupils.

Performance-Based Teacher Education

A teacher education program where the learning outcomes and the indicators acceptable as evidence of the realization of these outcomes, specified and made public. (This type of program is sometimes used as the basis for certification of new teachers.) Learning outcomes may be evidenced at:

1) The knowledge level (the result of interacting with "protocol" materials).

2) The skill level (the result of interacting with "training" materials).

3) The output level (the result of interacting with "integrating" materials).

4) The performance level (the behavior of the teacher).

5) The consequence level (the behavior of pupils).

Allen A. Schmieder. Competency-Based Education: The State of the Scene. PBTE Series: No. 9. Washington D.C.: American Association of Colleges for Teacher Education, 1973. pp. 52,63.

10. The competency-based approach can be defined as one which specifies objectives in explicit form and holds prospective teachers accountable for meeting them. Teacher competencies and measures for evaluating them are specified and made known in advance of instruction.

Competency-based programs are criteria references and thus provide information as to the degree of competence attained by a particular student teacher, independent of reference to the performance of others. Competencies may be developed and assessed on three types of criteria:

1) Knowledge -- facts, principles, generalizations, awarenessess, and sensitivities that the student teacher is expected to acquire.

2) Performance--behaviors that the student teacher is expected to demonstrate.

3) Conseauences -- outcomes that the student teacher is expected to bring about in the emotional and intellectual growth of his pupils.

Beyond this basic definition, there is confusion even among the disciples of the movement as to what constitutes a CBTE program. Most would agree, though, that a program is competency-based if it possesses the following characteristics:

1) Individualized instruction -- the student teacher is involved in making instructional choices that he considers relevant to his own interests.

2) Instructional modules -- a module is a unit of learning consisting of a set of activities intended to help a student teacher achieve specified objectives.

3) Time as a variable -- completion of modules and rate of progress through the program are determined by the student teacher's competency rather than by the traditional requirement of course completion in a fixed time span.

4) Field-centered instruction -- because of the emphasis on performance in real settings with pupils, there is more and earlier practice teaching.

5) Emphasis on exit rather than entrance -- while program admission requirements are less rigid, demonstration of competency is required for certification.

Two major procedural conditions should exist if the program is approaching the ideal CBTE model: (1) a systems approach, and (2) decision-making by "consortia."

Phyllis D. Hamilton. Competency-Based Teacher Education. Stanford Research Institute, SRI Project 2158. 1973. pp. 3,4.

11.

A Performance-Based Program Includes --

1) Statements of goals for program.

2) Performance objectives for implementation of program goals.

3) Performance tasks for implementation of objectives.

4) Criterion measures for evaluation of performance tasks.

5) Provisions to insure a balance of theory and practice.

6) Systematic evaluation to insure relevancy of assigned tasks for field and campus application.

7) Inservice training to provide maximum effectiveness of campus and field associate teacher trainers.

8) Ongoing evaluation of program to determine degree that program goals are being realized.

Frederic T. Giles. Changing Teacher Education in a Large Urban University. PBTE Series: No. 6. Washington, D.C.: American Association of Colleges for Teacher Education, 1972, p. 12.

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12. A COMPETENCY-BASED TEACHER EDUCATION PROGRAM is one in which the competencies to be demonstrated by the student and the criteria to be applied in assessing the competencies of the student are made explicit and the student is held accountable for meeting those criteria.

Teacher COMPETENCIES refer to those particular attitudes, skills, understandings, and behaviors believed to facilitate the intellectual, social, emotional, and physical growth of children.

The CRITERIA used in assessing the competencies of the student are of three kinds: (1) knowledge criteria which are used to assess the student's cognitive understandings, (2) performance criteria which are used to assess the student's teaching behaviors, and (3) product effectiveness in terms of pupil growth.

The student is held ACCOUNTABLE for demonstrating the competencies specified, not for completing an established number of courses or credit hours; thus, the program is achievement-based, not time-based.

Wilford Weber. "Competency-Based Teacher Education: A Definition." University of Houston. Mimeograph.

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13. While there are numerous features which characterize competency-based teacher education programs, four of the most prominent are (1) the emphasis on clearly specified objectives, (2) the utilization modules, (3) the high priority put on the personalization of instruction, and (4) the emphasis given a field-centered approach.

Wilford A. Weber. "Team Leaders and Competency-Based Teacher Education," Perspectives on the Role of the Teacher Corps Team Leader. The University of Toledo, Project No. 452272, Grant No. OEG-0-70-2272 (715). p. 114.

14. Competency-Based Teacher Education - systematically designed teacher education programs which typically emphasize the following characteristics:

1) pre-specified public competencies or program goals.
2) pre-specified, public performance objectives.
3) actual competency demonstration.
4) detailed assessment of entering and exiting behavior.
5) new instructional materials with an emphasis on the instructional models.
6) public school cooperation in program development and implementation.

("performance-based teacher education" - synonymous)

Rita C. Richey. "Definition of Selected Terms Related to Competency-Based Teacher Education," Michigan COAST Project. Wayne State University, College of Education, Division of Teacher Education. Detroit, Michigan, May 1974. p.2.

Synthesis of CBTE

An analysis of the preceding definitions led to the development of seven basic components which encompass all facets of programs that were described in the definitions. These components are: competencies, assessment, individualized instruction, field centered, systemic approach, general program characteristics, and decision-making processes. Each of these consists of several factors, the number varying with the component area. Each component and its factors are listed in the following pages.

Those factors marked with an asterisk are "given", that is, the program must have these before an analysis should even be made. There are only three such factors, the only ones where there appears to be unanimous agreement. It is important to note that beyond these three the profile does not indicate how many or which factors are needed as a minimum in order to classify a program as competency-based. Nor does this imply that only those three are sufficient to have a competency-based program. No such agreement among program developers exists. The profile can be considered more of an index of the degree to which a program is competency-based. It is axiomatic that there will be disagreement over these elements!

Competencies

* 1) Competencies are specifically stated in behavioral terms .

* 2) Competencies are made public .

3) Competencies have mastery levels or performance criteria which make criterion assessment possible .

4) Competencies are stated for student teaching .

5) Competencies are stated for some professional education courses or modules .

6) Competencies are stated for entire professional education sequence.

7) Competencies are stated for subject matter areas .

8) Competencies are stated for general studies component.

9) Competencies are derived from a theoretical base .

10) Competencies are derived from an analysis of teacher roles .

11) Competencies are derived from experienced teachers' judgment .

12) Competencies are written in the cognitive area .

13) Competencies are written for performance (teaching) skills .

14) Competencies are written in terms of pupil outcomes (consequence competencies) .

15) Competencies are written in terms of attitudes to be demonstrated .

16) Competencies are subjected to continual validation procedures .

Assessment

* 1) Assessment is directly related to competency statements.

2) Competency assessment is based on stated mastery levels or performance criteria.

3) Assessment allows for influence of context variables upon performance particularly when field centered assessment.

4) Criteria are specified, made public in advance of instruction.

5) Assessment utilizes performance as primary evidence.

6) Assessment strives for objectivity and consistency.

7) The learner is accountable to achieve competencies.

Individualized Instruction

1) Accomodates learner style (sequence preference, pacing, perceived need).

2) Alternative instructional modes available for competency attainment.

3) Modularized instruction.

4) Student choice of objectives.

5) Exit requirement emphasis, time is a variable.

6) Rate of progress determined by competency completion.

7) Significant student-instructor contact (personalized).

Field Centered

1) Pre-student teaching field experiences
2) Evaluation of some module objectives in the schools
3) On-site training in school settings
4) In-service component of program
5) School personnel involved in assessment
6) School personnel involved in formal instruction

Systemic

1) Data is collected on the program and students
2) Feedback of evidence on functioning and effectiveness of the system, feedback to students continual
3) Regenerative program - continual revision, systematic evaluation to insure relevancy of tasks, instruction revised on basis of learner feedback
4) Management system established - accounting of program, students, and materials
5) Effective communication system within program and among staff

Program

*1) Instruction intended to facilitate development of competencies and derived from competency statements.

2) Research oriented, promotes research on competencies.

3) On-going program evaluation to determine if goals achieved.

4) Totally unified and integrated program.

5) The program is accountable for: meeting student needs, relevancy, effectiveness.

Decision-Making

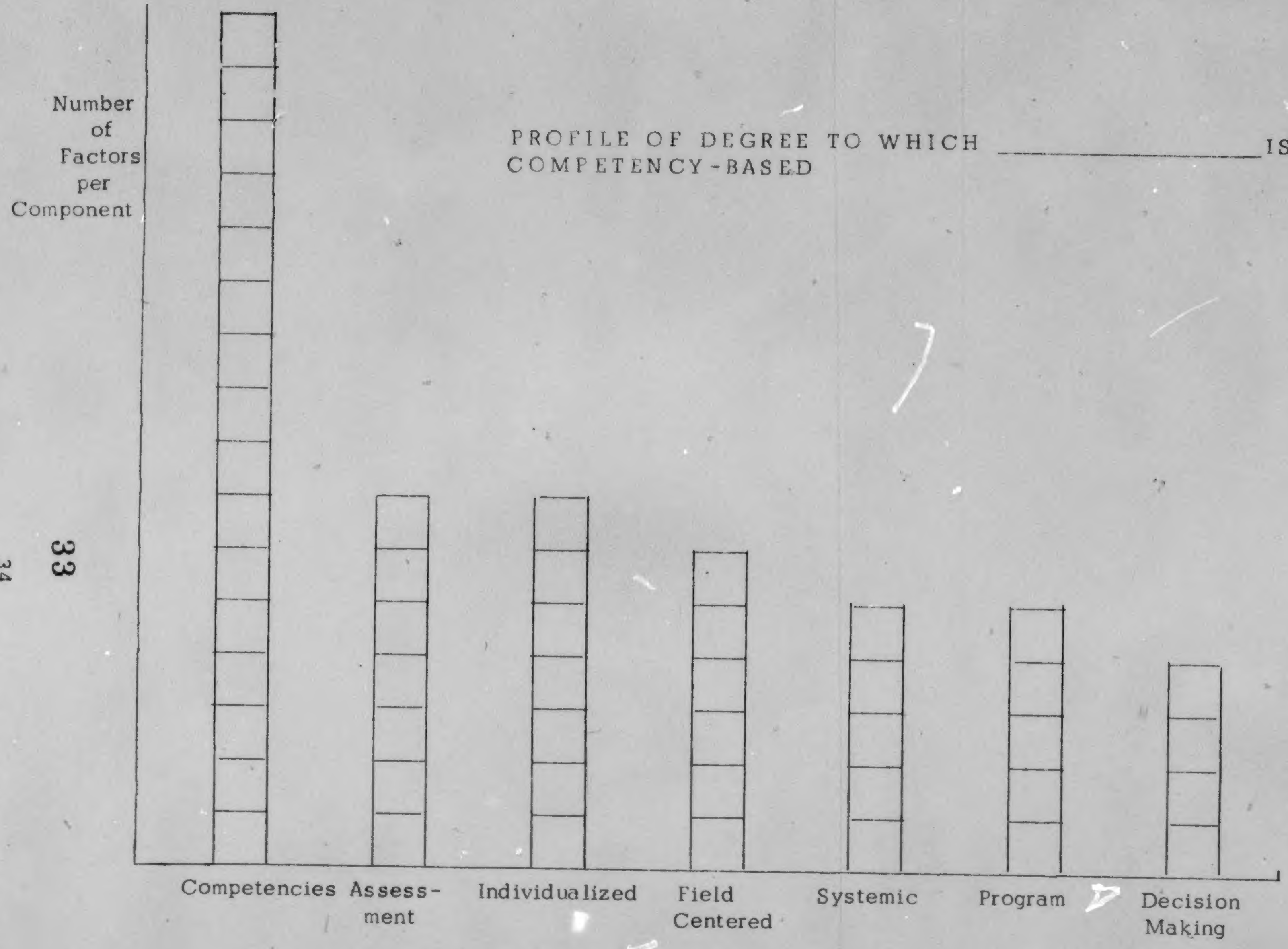
1) Decisions based on feedback, input of data, and competency assessment.

2) Broad-based decision making, groups involved are represented in policy decisions.

3) Student participation in decision-making.

4) Consortium is organized.

The factors which apply to a particular program are checked, and the total number of factors in each component are indicated on the profile. The profile form is shown in figure one.



PROFILE OF DEGREE TO WHICH ________________ IS
COMPETENCY-BASED

COMPONENTS

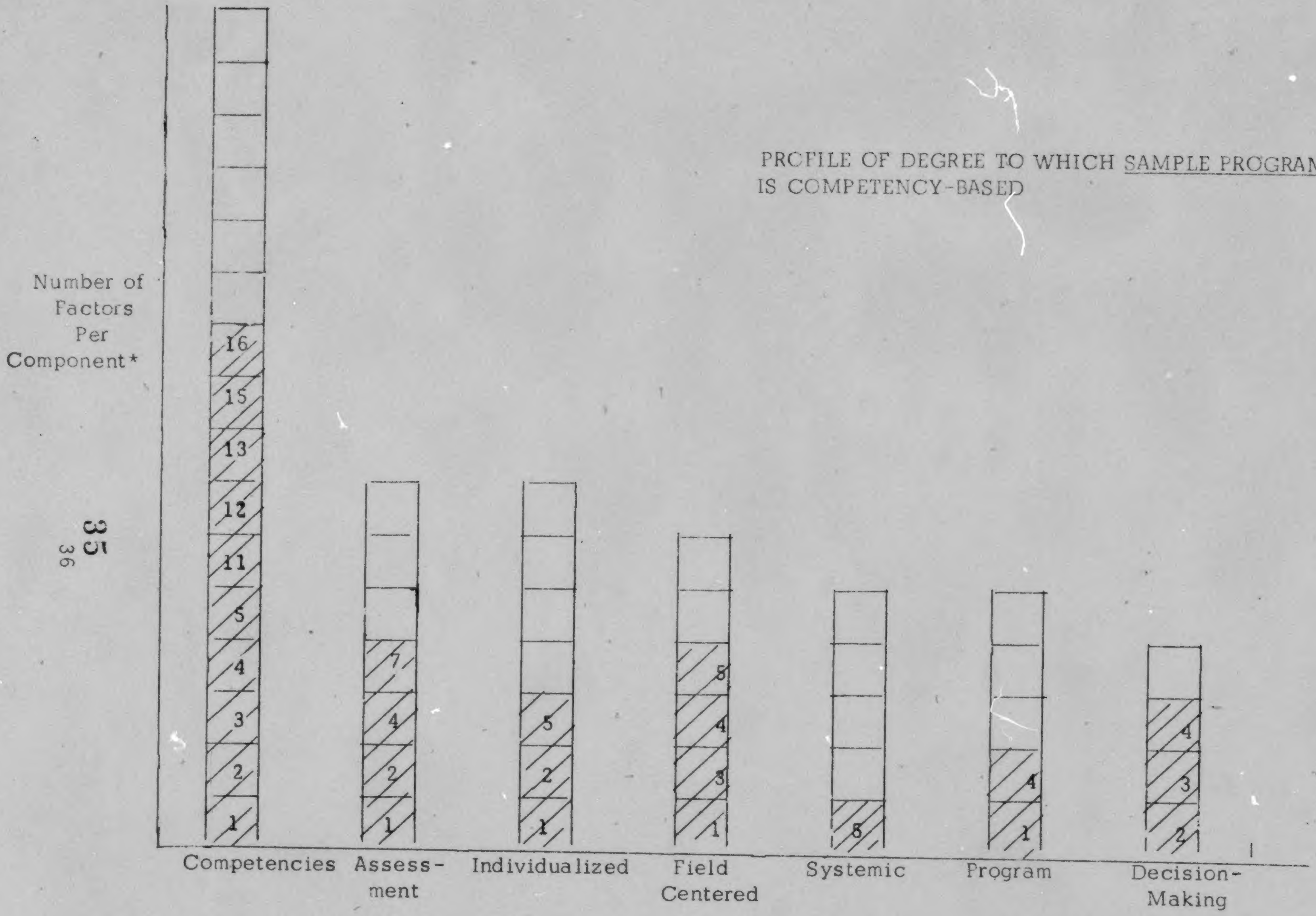
(figure 1)

Sample Program

As an example of how the profile works, consider a hypothetical institution which has matched its program with the factors. In terms of competencies, numbers 1*, 2*, 3, 4, 5, 11, 12, 13, 15, 16 apply. Since there are ten of these, the profile will indicate ten factors. Note that factors are merely totaled, with no sequencing and weighting of factors indicated. Under assessment, numbers 1*, 2, 4, 7 apply, hence, four factors are indicated. Eventually a total profile is constructed which provides an overview of the program. (figure 2).

These profiles can be used for descriptive and/or comparative purposes. Another function relates to the pros and cons of competency-based teacher education. Critics are often accused of building "straw men" which they methodically attack. By illustrating those factors which apply to a particular program, it is then reasonable to identify only those strengths and weaknesses associated with particular elements as being applicable to that program. Thus, a much more realistic assessment and more meaningful discussion are possible. There may, of course, be aspects not covered by the profile which would be points of discussion, such as the teaching of theory. The profile does, however, provide a point of reference.

PROFILE OF DEGREE TO WHICH SAMPLE PROGRAM IS COMPETENCY-BASED



*numbers indicate which factors apply

COMPONENTS
(figure 2)

COMPETENCY BASED TEACHER CERTIFICATION

Definitions

#1. In defining performance-based teacher certification, it is useful to consider the two parts of the concept -- "performance-based" and "teacher certification" -- separately. Teacher certification is, of course, the process whereby a state or other governmental unit identifies those persons who are eligible for employment as teachers.

The "performance-based" part of the concept signifies that the collection of evidence verifying the candidate's ability to perform as a teacher is a central function in the bureaucratic process of teacher certification. The addition of "performance-based" as a qualifier to "teacher certification" specifies the kind of evidence which is most appropriate for identifying those persons who should be considered qualified to perform as teachers in public schools. Such evidence would relate directly to teaching performance.

Fred Daniel, Associate for Planning and Coordination. Performance-Based Teacher Certification: Florida's Projected Program. May 1971.

#2. Competency-Assessment Certification (CAC) -- The award of entry-level certification or licensure based upon a competency-assessment procedure which verifies the applicant's attainment of an established minimum level of teaching competency, by either

1) State Education Agency (SEA) - approved CBTE/PBTE

2) A competency-assessment process designed and conducted by the SEA.

(NOTE: Procedures of school districts, preparing institutions, or state educational agencies -- acting separately or cooperatively -- which (sic) permit entry of certain classes of persons (e.g.: those holding earned degrees in non-education fields, etc.) to teach or perform other school staff support services on a probationary status. If during this period such persons are rated in some overall performance manner for the purpose of awarding continuing professional certification or licensure, such process has not been defined as competency-assessment certification. Such procedures do not verify specific competencies in advance of initial entry into, and employment within, the education professions.)

Pennsylvania Department of Education. "Competency-Based Teacher Certification in the United States," (Harrisburg: 1973.) pp. 1,2.

#3. Competency-Based Teacher Certification -- The Name of What Game?

Competency (performance)-based teacher certification (CBTC) has been interpreted in several ways. In the following descriptions, the term competency-based teacher education is not defined. Any of the previous definitions of CBTE which apply to a particular situation or state may be substituted for the term CBTE.

Preservice

1) An agency of the state (e.g., Department of Education, testing center, commissioned committees) external to the teacher education program evaluates a candidate for certification. This is the strict interpretation of the term.

2) The state has adopted a set of competencies required of all candidates and hence as part of all teacher education programs. The preparation institutions verify attainment of competencies. This is in the "gray" area between CBTE and CBTC.

3) The state approves competency (performance) -based teacher education (CBTE) programs (defined in various ways) so that certificates will be issued upon the recommendation of the institution. Competency programs may or may not be mandated. This is a very loose interpretation of the term and generally is considered more CBTE than CBTC. Some would classify only a mandated CBTE system as CBTC.

Inservice

1) An agency of the state (e.g., Department of Education, testing center, commissioned committees) external to the school district evaluates a candidate for re-certification.

2) The state has adopted a set of competencies required of all re-certification candidates. Local districts using their own staff (or combined with outside personnel) evaluate the candidate and recommend for re-certification on the basis of these competencies.

3) The state requires an inservice evaluation for re-certification and either requires or accepts an evaluation system consistent with the principles of the competency-based approach (variously defined). Some would classify only a mandated system as CBTC.

Robert A. Roth, Michigan Department of Education. January 1974.

Synthesis of CBTC

The various state approaches to competency-based teacher education/certificatio can be viewed as being along a continuum (figure 3) and reflect the role of a state in the process. At one end of the continuum we have a very open system with considerable flexibility, whereas at the other end we have a highly structured and centralized approach. Easily identifiable state positions have been labeled on the diagram and will be briefly described, but it is important to remember that a continuum implies varying degrees of program types between those identified. A more complete description of the models, a discussion of the issues related to these, and examples, can be found in The Role of the State in Competency-Based Teacher Education by Robert A. Roth.

Informational Model

Decision-making is decentralized with local districts conducting the evaluation of the competence of potential teachers. The function of the state is to monitor the local evaluation but not impose standards. The state office would maintain a data bank on all teaching personnel.

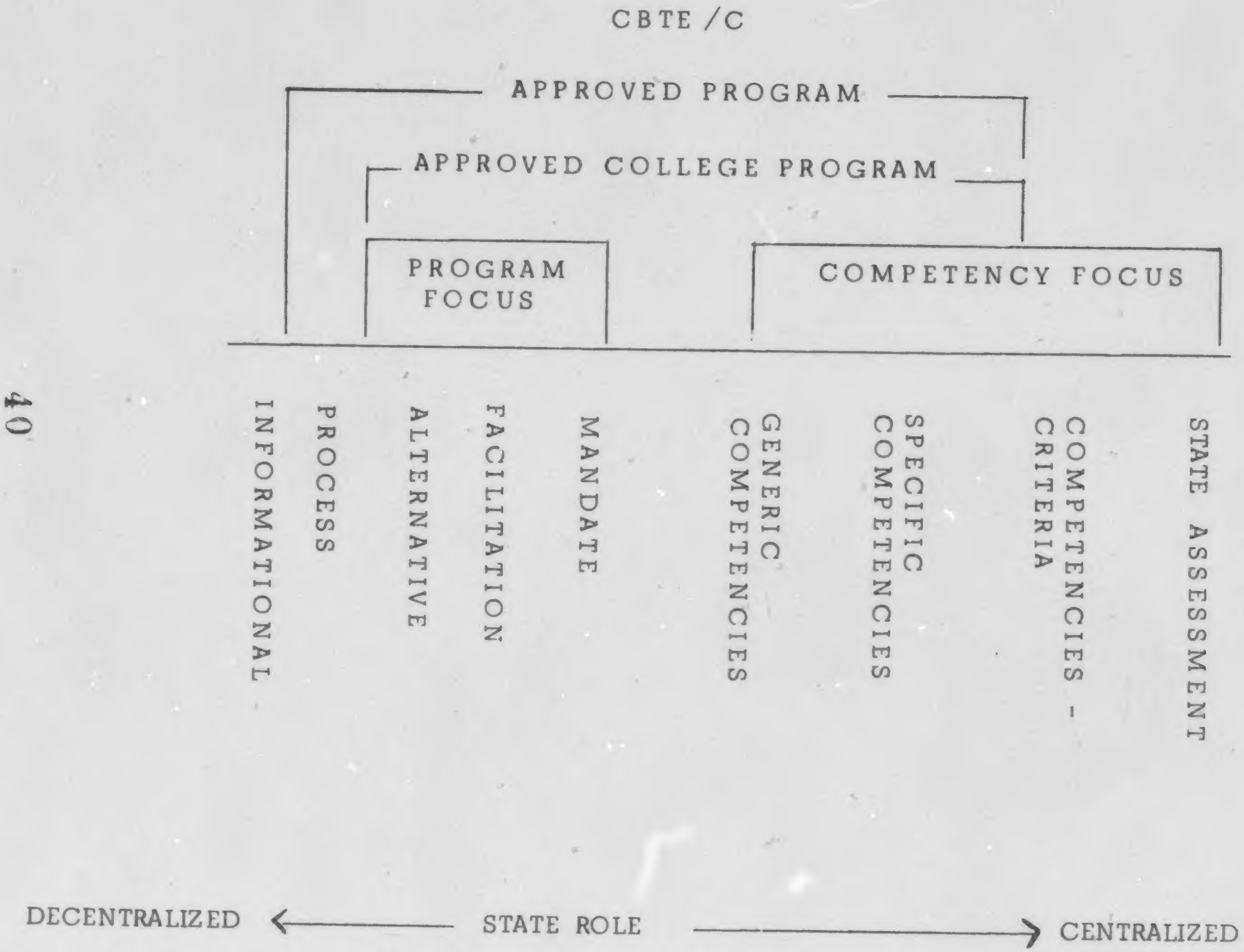
Process Model

In this system the state does not determine the content of the teacher education program. Competencies and performance criteria are not established at the state level. The primary role of the state is to define the process for development of teacher education programs, stating who is to be involved and the nature of the involvement.

Alternative Program Model

In this system the state provides that institutions may develop competency-based teacher education programs. Alternative structures are available to the teacher preparation institutions, but all programs are approved by the state. Many states are operating under this approach, some merely because existing regulations provide for experimental programs.

STATE APPROACHES


CBTE /C
APPROVED PROGRAM
APPROVED COLLEGE PROGRAM
PROGRAM FOCUS
COMPETENCY FOCUS
INFORMATIONAL
PROCESS
ALTERNATIVE
FACILITATION
MANDATE
GENERIC COMPETENCIES
SPECIFIC COMPETENCIES
COMPETENCIES - CRITERIA
STATE ASSESSMENT
DECENTRALIZED
STATE ROLE
CENTRALIZED

(Figure 3)

Facilitation Model

As in the alternative program model, the institutions are free to select their program structure, and the college approved program approach is utilized. The essential difference is that the state actively supports competency-based programs through a number of facilitating activities. The main theme in this approach is to encourage development of programs but to maintain this on a voluntary basis due to the lack of definitive information on program effectiveness.

Mandate Model

In this case, all of the previous model's components apply, except that the teacher preparation institution must develop competency-based teacher education programs. Some of the options have now been closed, but only in terms of program structure. Implicit in this system is a deep commitment to CBTE and faith in its value.

Generic Competencies Model

A general approach to competency-based teacher education-certification is to establish required competencies at the state level. The manner in which these competencies are stated significantly affects the impact they will have on teacher education programs and the role of the state. The competencies can be stated in generic (broad) terms which then serve as guidelines for further specification by teacher preparation institutions.

Specific Competencies Model

In this system the state provides very specific competencies which are utilized by the colleges or preparation units as program objectives. Uniformity in certification with a single set of standards is the essential feature.

Competencies Criteria Model

A model which at times is indistinguishable from the previous one is characterized not only by state adoption of specific competencies but the criterion levels for these as well. Criterion levels specify the evidence that will be accepted that a competency has been demonstrated.

State Assessment Model

In this paradigm specific competencies and criteria are established at the state level, but the assessment of an individual's competence is done by the state. There are several ways in which a state testing procedure can be implemented.

Figure three illustrates the various models described. The titles "approved program" and "approved college program" were added to the continuum by Ted Andrews, with the New York State Department of Education.

A significant question is which of these models are considered competency-based teacher education, and which are considered competency-based teacher certification. Where does one draw the line? It is suggested that the farther to the right one goes on the continuum, the more the approach is considered competency-based teacher certification. The informational, process, alternative and facilitation models probably would not be considered certification, but the state assessment model certainly is. Classification of the models between these would be a matter of preference.

CHAPTER III

PROS AND CONS

COMPETENCY BASED TEACHER EDUCATION

THE PROS AND CONS

TABLE OF CONTENTS

Page

INTRODUCTION 51

PHILOSOPHICAL ISSUES 54

Competencies 54

Mechanistic, Behavioristic 68

Humanism, Individualism 81

Program Philosophy 91

Social Factors 104

POLITICAL ISSUES 108

College, Faculty 108

Decision Making, Parity 115

Accountability, Control 119

Professional Association 124

EMPIRICAL ISSUES 130

Research, Competencies 130

Assessment 139

CERTIFICATION 147

PROGRAM ELEMENTS 152

BIBLIOGRAPHY 159

INTRODUCTION

This document is based on an extensive search of the literature on competency-based teacher education. Specifically, comments concerning the pros and cons of the competency concept were sought, descriptions of programs and operational issues were not the focus of this review. The purpose of this document is not to support one position, but to provide both sides of the issues as reflected in the literature.

It is important to note that quotations presented here are removed from the context in which they appeared. In each instance an attempt was made to select passages that reflect the essential point being made. Each quote is given the appropriate reference, but it is extremely important that the reader not interpret one statement as being representative of a particular individual's position; it may be just the opposite. This is the danger in quoting out of context. A particular individual's position can only be determined by reading the entire article from which the quote was derived. Because of the above factors it is recommended that if the reader is interested in a particular comment, he/she should refer to the primary source for the full impact and meaning, and the rationale or comments which support the quoted statement.

In searching the literature a large number of documents were found relating to the concept of competency or performance based teacher education. These documents dealt with many different topics extending over a wide range. In order to organize and present these viewpoints in some systematic fashion, the quotations were classified into five broad categories.

The first category is labeled as "Philosophical Issues," and it contains statements related to the basic concepts of competency based teacher education. Inherent in the competency approach is a particular philosophical orientation characterized by such things as a need for specificity, behavioral indices, and a systems approach, etc. As noted in the literature, this orientation is not always supported as being advisable for teacher education, and provides for some of the controversy associated with CBTE.

A second category, "Political Issues," contains statements regarding control and decision-making. Each interest group, such as college faculty, professional associations, state departments, and legislatures, have their own view of the competency movement. Many of the expectations and fears are expressed by these groups from the perspective of their particular interest group.

The third general category relates to concerns about research and assessment. The research question is related to competency statements, since the validity of required competencies is dependent upon a research base. In competency programs, assessment becomes a significant factor because objectives are more clearly delineated. A number of viewpoints concerning these two areas are provided in this section.

The next section deals with issues related to competency-based teacher certification. There is no precise definition of competency-based certification, but applying the concepts of the competency approach to teacher education is not the same as applying them to teacher certification. Issues related to a competency approach to certification should therefore be separated from the other issues, although there is some overlap.

The last section deals with many aspects of competency programs. It contains statements relative to the pros and cons of various competency based teacher education program elements such as modules, a systems approach, etc.

The pros and cons can be useful in considering the merits of a particular CBTE program, but this should be done with caution. Since CBTE has been defined in various ways, and since pros and cons apply to specific program elements, one needs to examine a specific program to determine if a component is indeed part of the program before associating a strength or weakness of that component with that program. With a clear delineation of a given program's characteristics this document becomes useful in studying the pros and cons of each program element.

PHILOSOPHICAL ISSUES

Competencies

The sine qua non of a competency-based teacher education program is the statement of teaching competencies around which the entire program is developed. This section begins with a brief description of the nature of these statements as found in competency programs, and a basis for their development.

"Generally, five kinds of objectives are used in a CBTE program; they are classified according to the criteria which are applied in assessing the student's competence.

Cognitive or knowledge objectives specify knowledge and intellectual abilities to be demonstrated by the student. Performance objectives specify teaching behaviors which the student is to perform. Consequence or product objectives call for the student to bring about a desired change in pupils he has taught. Affective objectives specify attitudes the student is to demonstrate. And expressive or exploratory objectives stipulate an experience which the student is to undertake." (Weber, Cooper, Houston, 1973, Issue 21).

"One does not develop competency statements for a teacher education program without first developing a philosophical and conceptual framework. This framework is necessary in order to guide personnel in the development of competency statements, and to ensure that those competencies that are specified are consistent with one another and the overall philosophy of the program.

The philosophical base of the program must explicate assumptions and values regarding the nature of man, the purpose of education, and the nature of learning and instruction. A fully developed set of assumptions permits the specification of desired pupil outcomes. The assumptions and the desired pupil outcomes allow for the conceptualization of the teacher's role. That is, given the program's assumptions about man and education and a set of specified pupil outcomes consistent with those assumptions, the role of teacher can be conceptualized. Once the role of the teacher has been described, it is possible to generate statements of teaching competencies.

The competencies themselves may be generated from a number of different sources, including current course objectives, empirical knowledge about teaching, subject matter to be taught, and task analyses of what effective practitioners do in their teaching. Regardless of the source of the competency, the decision about whether or not to include it in the program must be made on the basis of its consistency with the program's assumptions, conceptualized role of the teacher, and goals." (Weber, Cooper, Houston, 1973, Issue 20).

Extremely divergent opinions appear to exist concerning the appropriateness of stating competencies and implications of this approach. The arguments center mostly on the degree of specificity of the competencies, and in most cases where statements are critical, the assumption made is that competencies are very precise behavioral objectives. The narrowness of the approach is frequently cited. The following statements reflect both the concerns and promise of this program element.

"It is conceivable that requiring a teacher education program to define precisely the behaviors it hopes to produce may be the surest way to destroy the effectiveness of its products by concentrating everyone's attention on the wrong dynamics." (Combs, 1972b, p. 288).

"Their performance-criteria approach is a closed system: ends are prescribed in advance, and the task of the teacher is to manipulate events in such a fashion as to bring students to predetermined goals . . . . Sometimes this approach serves us well, but I should like to suggest that it makes its greatest, and perhaps its only, contribution in the development of precisely defined skills. Applied to more complex functions, the direction provided by this frame of reference has proven less satisfactory or totally unsatisfactory. There can be no explicitly stated, precisely defined behavioral objectives in a more complex, open non-predictive environment." (Openshaw, 1972, p. 8).

"What is in question, however, is the extent to which the CBTE approach of specifying explicit behavioral objectives and teacher competencies can take into account the psychosocial and environmental factors that impinge on child learning. Is it possible to define teaching performance apart from the specific system of behaviors and values that are inculcated in a particular neighborhood or cultural setting?" (Hamilton, 1973, p. 50).

"Some opposed it on philosophical grounds, pointing out that in their view prespecified objectives limit the individual learner's choices and tend to constrain his focus and perception to narrowly defined program requirements. To them the concept of the teacher as a broadly educated person seemed to be in jeopardy." (Houston, Howsam, 1974, p. 300).

"Moreover, it appears that PBTE may encourage an emphasis on small, short-term, isolated gains rather than on significant, long-term, integrated growth. There is a crucial need for integration of experience and curriculum which PBTE may threaten be breaking things down into small, measurable units. Because of the pace of social and technological change, we can imagine future needs in only the most general terms. This renders it unpromising to lay down small, specific goals of behavior that will be appropriate in the future."

"Critics of CBTE are saying that the rapidity of change makes the specifications of "right" behaviors for tomorrow's youth very problematic. A narrowly focused behavioral objectives approach therefore becomes increasingly less suitable." (Hamilton, 1973, p. 61).

"CBTE is seen by presidents and professors as narrowly prescriptive or as having the capacity to become so. They tend to label it as narrowly behavioristic and antihumanistic." (Houston, Howsam, 1974, p. 303).

"By concentrating attention on specifics rather than more integrated and complex goals, the major thrust of the system tends to be distorted as minor rather than major goals, and minor rather than major goals take precedent in our educational processes.

The distortion is further compounded by the fact that behavioral objectives are likely to be determined by the nature of the measuring instruments that are available to measure. Ideally, objectives should be established, methods of measurement then invented or found that are appropriate to that which we desire. Quite the reverse is too often the case as objectives are formulated in terms of instruments which are at hand while matters for which there are no existing instruments are usually ignored altogether." (Openshaw, 1972, p. 10).

"PBTE can also be objected to as appropriate for the professional component of a prospective teacher's program, but essentially unsound for the academic part of the program. Its apparent emphasis on shorter-term, observable educational objectives seems to serve better the clearly defined, immediate needs of the teacher operating daily in the school setting than the more intangible, long-term goals of a liberal education." (Shugrue, 1973, p. 6).

"If attention is riveted on behavior and the necessity to change it, the technique employed will be managerial attempts to control and direct may have to be repeated day after day because nothing has been done to deal with the causes of behavior one wishes to deal with." (Openshaw, 1972, p. 8).

"People behave according to their perception of themselves and the world they are involved in. Concentrating attention, therefore, on behavior is to deal with it after the fact, at the end of the process rather than at its origin. Thus, the attempt to change behavior through programs by concentrating on behavior itself is to deal with symptoms and is likely to be no more satisfying than going to a doctor who does nothing but deal with symptoms while ignoring the causes of one's illness." (Openshaw, 1972, p. 8).

"Techniques of teacher education which focus attention upon the behavior of students may thus be teaching prospective teachers to look in the wrong place to affect growth in learners. It is generally assumed that the way to get a person to change his behavior is to get him to concentrate on it. Unfortunately, this is inaccurate. People who try to change their behavior directly by concentrating on it can only do it by acting it. . . . but changing behavior by acting is only effective so long as one can keep his mind on what he is doing, and this is almost impossible in an ordinary classroom situation where thousands of distractions are continually occuring to take one's mind off what he is doing." (Openshaw, 1972, p. 8-9).

"The danger still exists that PBTE programs will settle for competencies stated in narrow behavioral terms and will spend their energies assessing what is least important for the creative, continuing growth of the teacher." (Shugrue, 1973, p. 13).

"Harvey's studies point strongly toward the hypothesis that to produce open, flexible, adaptive, and creative pupils it is necessary first to have "abstract" teachers. High levels of abstraction, however, do no appear consistent with performance objectives." (Hamilton, 1973, p. 26).

"The performance-criteria approach is too frequently a closed system of thinking. It demands that ends be defined in advance. This, then, places a kind of a strait jacket on prospective teachers and professors alike and makes the learning situation a search for right ways. Preoccupation with the necessity for being right has again been one of the things we in teacher education have been obsessed with for a long time. It discourages innovation, stifles individual kinds of activity and creativity, and makes the classroom a dull, conforming place where others are learning right answers to problems they can't even phrase yet." (Openshaw, 1972, p. 9).

"Effective teacher education must concentrate its efforts upon meanings rather than behavior. Behavior, it must be understood, is only symptom; the causes of behavior lie in perceptions and beliefs. Exclusive concern with behavior is not likely to be effective. Teaching teachers how to teach, how to behave, hasn't worked because it places too much emphasis on symptoms . . . . In light of this understanding of the symptomatic character of behavior, teacher education programs preoccupied with behavioral approaches to teacher preparation may be creating their own roadblocks. The concept also raises interesting questions for the current national emphasis upon behavioral objectives and some applications of behavior modification techniques. It is conceivable that requiring a teacher education program to define precisely the behaviors it hopes to produce may be the surest way to destroy the effectiveness of its products by concentrating everyone's attention on the wrong dynamics. . . . There are thousands of ways to express either of the above perceptions in action. The crucial question for teacher education is not which behavior but how to bring about appropriate shifts in perception." (Combs, 1972b, pp. 287-288).

"Teaching, and especially teaching of English, is much more like creation of an artistic work, except that there is no single "product," no tangible entity to which one can attach specific acts in technological fashion. Teaching involves many complex judgments arrived at and executed in essentially intuitive ways. . . we cannot say exactly what kinds of knowledge and training a poet or a composer needs; we should not assume that greater precision is possible for prescribing teacher preparation." (Washington State Council of Teachers of English, 1970, p. 203).

"I believe that our educational practices can be improved if teachers and administrators and curriculum writers begin to think about their work in terms of changes in student behaviors. But, as a humanist, I also think that simple-minded insistence upon a priori specification of all objectives in terms of conveniently observable behaviors does far more harm than good." (Shugrue, 1973, p. 13).

"The promise of PBTE is in the fact that its focus on objectives and its emphasis upon the sharing process by which those objectives are formulated in advance are made explicit and used as the basis for evaluating performance." (Elam, 1971, p. 14).

"CBTE pushes educators to explicate program objectives and to make them public. The importance of objectives in program planning and in instruction has been recognized by educators for a long time. CBTE strategy not only recognizes this importance, but gives it peculiar significance. It is a focus-on-objectives strategy." (Massanari, 1973, p. 246).

"Through specifying behaviorally stated instructional outcomes, evaluation becomes a tool of improving instruction with both the instructor and the student knowing what is being taught, why it is being taught and in what manner it will be evaluated." (Wheeler, 1972, p. 4).

"The primary measure of the program's success is whether or not these teachers possess the knowledge, skills, and attitudes which the program has as its goals. This implies that some sort of evaluation is necessary to ascertain the degree to which these teachers do, in fact, possess these attributes. At the present time it doesn't appear evident to me that we have this system of evaluation to effectively determine whether our programs have been successful or not. I am convinced that a competency-based teacher education program--which incorporates aspects of the other new trends in teacher education such as a systems analysis approach, personalized instruction, interdisciplinary curricula, multi-institutional patterns of organization, differentiated staffing patterns, and the new technology, for example, is the most attractive response to the weaknesses cited earlier. Unless we have program objectives clearly specified and they are clear to all involved, nothing we do really makes sense. Stated simply, if we do not know what we are trying to do there is no way of finding out if we have done it. (Wheeler, 1972, pp. 9-10).

"Broudy assumes that PBTE can only deal with minutia and spends time reviling that condition. Some users certainly do make trivial use of the PBTE tool, and we would agree that it is a waste, but the case for claiming that PBTE is limited to dealing with minutea is unproven." His basis of proof rests on the implication that we are able to write only knowledge-level objectives. He also ignores our capability of writing synthesizing objectives in a behavioral or measurable form. That the state of the art makes the writing of such higher order behavioral objectives difficult is true, but that does not reduce the need or the possibility." (Hersh, Gentry, 1973, p. 3).

"I am not suggesting that a performance-based approach is all wrong. It would be much easier for us to deal with it if it were. The danger lies in that, from my perspective, it is only partially right, and in the realm of human endeavor, nothing is more dangerous than a "partly right" idea. . . . The performance-based approach is something like that, from my point of view. It does indeed have value and often works quite effectively when applied to the acquisition of precisely definable skills. It has an important place in the system of teacher preparation. Behavioral objectives have such a logical, tangible quality that they are likely to create illusions of accuracy and efficiency far beyond the assistance that they can actually deliver. As the primary means for the education of teachers, however, I would suggest they leave much to be desired." (Openshaw, 1972, pp. 6-7).

"Question Criticism - Trivial behaviors are those most easily operationalized; the really important aspects of teacher education may be overlooked.
Retort - Actually explicit objectives compel teacher educators to attend to the really important aspects of the profession. Because goals and objectives are made public, and brought under the scrutiny of peers and students with resulting feedback there is a much greater chance to eliminate the trivial behaviors.

In addition it assures that broader goals are really being implemented. For example, if a science methods professor claimed that one of his objectives was "to make my students aware of the advantages of implementing an inquiry approach to science," we would not be able to find fault with his basic objective. Yet, if we discover that he was implementing this goal by delivering lecture after lecture, and measuring the outcomes entirely with a true-false test we would become suspect that he was inconsistent, and not really interested in obtaining his lofty objective.

The very fact that we do make behaviors explicit, permits the instructor and his colleagues to scrutinize them carefully and thus eliminate those unworthy of our efforts." (Arends, Elmes, Masla, 1972, p. 5).

"One of the major advantages of performance-based models is that they do incorporate prespecified, well defined exit behaviors. As an added benefit, the availability of clearly stated exit behaviors which serve as evaluative criteria enhances diagnosis of student learning difficulties. Unlike the course grade method of evaluating performance, a criterion referenced approach related to identified competencies can provide the student with more precise diagnostic direction than "study more" or "work harder." (Airasian, 1973, p. 19).

"When a student is able to demonstrate in concrete terms what he has or has not learned, educators will be in a better position to judge where and why a program succeeds or fails and make the necessary changes to achieve success." (Lessinger, 1970, p. 1)

"PBTE can promote the most rigorous questioning of goals. James Hoetker, for example, introduces to his colleagues in the liberal arts and sciences the kinds of legitimate questions which a performance-based program poses: "What are the preferences, responses, pastimes, expenditures, companionships, activities that distinguish "the liberally educated man or woman" from those who have not had this advantage?" He inquires further, "Which of the behaviors of the liberally educated man do we actively discourage our students from exhibiting? Which of the behaviors of the uneducated man do we reward our students for exhibiting?" (Shugrue, 1973, pp. 10-11).

"The promise of PBTE is in the fact that learning is tied more directly to the objectives to be achieved than to the learning resources utilized to attain them." (Elam, 1971, p. 14).

"The affective domain is being neglected in performance based teacher education." (McKenna, 1973, p. 1).

"Question Criticism - The really important areas of teaching are in the affective domain, and these are very difficult to categorize and measure. Retort - We agree that objectives in the affective domain are difficult to measure; however, we do feel that they can be measured in behavioral terms. Once we have agreed upon the desirable areas of the affective domain we can begin to identify the specific behaviors which are indicative of those areas. For instance, we might agree that we want teachers that are open and receptive to all types of children. With this goal in mind we can then list the specific behaviors which would indicate this type of person. Such observable behavior might include: Does the prospective teacher show equal respectivity to both boys and girls? Does the prospective teacher treat majority and minority students equally? Does the prospective teacher only accept the scrubbed, rosy cheeked, well clothed, bright, articulate pupil, or does he accept the dowdy, unscrubbed, slow pupil with equal openness. These are but a few of the observable behaviors which could be used to measure competence in the above affective area." (Arends, Elmes, Masla, 1972, p. 5).

"Objectives in the affective domain are imbedded in all other classes of objectives, but tend to resist the specific description expected of the first three types. Nevertheless, affective objectives are vital in a competency-based program." (Houston, 1972, pp. 5-6) .

"The skills of teaching and the behaviors of a teacher which are difficult to learn and to evaluate often focus on the human aspects of teacher-pupil contacts. The more convergent learning activities and simpler skills often focus on the more mechanical aspects of communication, writing behavioral objectives, operating equipment and so on. Unless one is careful, knowledge objectives and very simple skill objectives are likely to predominate in a PBTE program." (Elam, 1971, p. 19).

"For prospective teachers and for all students, some activities can, of course, be readily stated in behavioral terms, but the most important attitudes and values developed through a liberal education resist such codification and evaluation." (Shugrue, 1973, p. 14).

"Because concrete and deductive learnings are most easily measured, will we ignore those learnings that may be emotional, experience-based, inductive, and spontaneous? Will we ignore certain observed desired behavior, which delights us when observed, simply because it cannot be statistically measured and reported by computer rankings?" (Instruction, 1973, p. 18).

"Performance-based teacher education may result in a pragmatic narrowing of vision that cuts off all learnings that are not predicted in the original statement of objectives." (Elam, 1971, p. 19).

"The emphasis on learning which will serve the prospective teacher in the real world of the school can be seen as a means of perpetuating rather than challenging the status quo in education. Any successful PBTE program must, of course, provide opportunities for the student to examine alternative kinds of education if he or she is to become a questioning, growing professional teacher. Too narrow a program, to rigid a specification that the program prepare candidates for their roles in today's schools risks producing mere teaching technicians." (Shugrue, 1973, p. 7).

"One of the most glaring inadequacies of the competency-based model is that it excludes from its program structured opportunities for students to explore, express, and comprehend their feelings." (Nash, Agne, 1971, p. 151).

"It might also be argued that PBTE has so heavy a career or vocational orientation that it threatens to interfere with the prospective teacher's broad and continuing exposure to the liberal arts and sciences." (Shugrue, 1973, p. 6).

"The issue appears to be "to plan or not to plan," when actually it is a refusal to accept a restrictive, inadequate planning methodology in place of creative flexible approaches." (Maloney, 1972, p. 67).

". . . we are fetishizing techniques and trivializing the entire teacher preparation program." (R. Nash, 1970, p. 240).

"Not all information and experience needed to understand and practice the art of teaching comes from the immediate in time or space or event." (Lindsey, 1973, p. 287).

". . . the PBTE theses that in teacher education input and output should approach identity, and that the criterion for a teacher's ability to do a given task is having done it. How often he has done it and over what range is important, but even more important is whether the practitioner can perform a variation of the task not previously practiced.

This is a crucial issue for the strategy of teacher preparation because it is commonly believed that if a practitioner succeeds on an unpracticed task that belongs to the same species as the practiced one but different in significant respects from those practiced, the success is owing to the use of theory to bring the unpracticed task within the class of the practiced ones.

. . . foundational studies have an interpretive context-building function rather than a predictive, rule-generating function, and that in teaching, proper context building is of paramount importance. However, since the tests applied to the usefulness of a study (in the research cited above) is a performance of one kind or another, the effect of context building would be hard to trace, even if the effects were expected.

. . . if the correct performance of a task of operation is the sole criterion for competence, then the study of theory at any time is unnecessary. . . .

If, however, the way a situation is perceived or interpreted is in any way an important ingredient of teaching or learning, then verbal behavior, or any other covert behavior, may not be sufficient indicators of either successful teaching or learning. In other words, performance-based teaching is in danger of capturing everything except what is most significant in many kinds of learning, viz., significance . . . Accordingly, if the PBTE insists that it does not exclude theory from its design, it has to make provisions for the study of theory as theory somewhere in the total program. This, it seems to me, is inconsistent with the PBTE approach if taken seriously." (Broudy, 1972, pp. 8, 9, 10, 11).

"Broudy's major concern and main assertion is his claim that there is no room for theory in a PBTE model. Broudy complains that the effect of PBTE training will be to produce apprentices who are limited to one response for a given instructional problem. He questions whether students so trained can react to novel instructional situations. More precisely, although he does not say so, his concern is transfer of learning. We are concerned with transfer of learning also, but unlike Broudy, we see this as an essential condition with which any teacher education program would be expected to deal. Our educational research literature is replete with examples of tests of transfer of learning. Why Broudy thinks that a PBTE system could not incorporate such objectives and criteria is not clear. Certainly, a systematic approach like PBTE could do a much better job of setting up conditions for determining whether transfer had taken place than can the semi-logical, intuitive, experiential, folklorish system that most of us now suffer." (Hersh, Gentry, 1973, p. 3).

"In what way will teachers behave differently if they have learned certain theories? What behavioral evidence can we find that a teacher performs more efficaciously in a classroom because he or she has mastered specific theory? PBTE, as a systematic approach requires that we test our hypothetical answers to these questions. . . . What is critical is testing, in public view, the theories we have held inaccessible to empirical tests in logical space or ego space." (Hersh, Gentry, 1973, pp. 3,6).

"How can competency based teacher education models retain and value soul searching, consideration of learning theories, and the weighing of instructional strategies? How can we avoid hawking the notion that what constitutes learning in any acceptable education situation is only that which is observable, demonstrable, and objectively defined. Will performance criteria become the barrier to teacher educators that the Regents examination is to New York State Public School teachers, through its incentive to "teach for the test?" (Agne, 1972, p. 3).

"The teacher/student relationship is one characterized by hertero-geneity on both sides of the relationship. The art lies in knowing or sensing, what particular stimulus or behavior is best for me as an individual teacher to reach most effectively a particular student or group of students in a given set of circumstances." (Maxwell, 1974, p. 310).

"Teacher performance lacks meaning except in a context and with an understanding of the teacher's intent and purpose and a comprehension of how the learner is responding." (Griffiths, 1973, p. 12).

"The point is that the teaching-learning transaction can be viewed from any one or more of an indefinite, if not infinite, number of aspects; there is no theoretically plausible way of precluding any one of these aspects or limiting the total number of them, because learning can be in any domain and about any subject in any human situation." (Broudy, 1972, pp. 4,5).

"Broudy asks how schools could employ teachers trained on different task sets. The answer, of course, is that this is precisely the state of affairs at the moment--schools are employing those trained in different task sets--only the labels are the same. Clearly, this problem will not be solved by present programs, and we cannot predict when a definitive task set will be produced in the absolute sense." (Hersh, Gentry, 1973, p. 3).

"Broudy's third assertion that PBTE requires us to select a set of training performances is true but not absolute, just as each program now has a set of expectations for each of its graduates which may differ from other programs. Just as there is not widespread agreement in traditional programs as to what is necessary and sufficient for good teaching; so, too, do PBTE avocates differ. The difference is that the latter are willing to submit their assumptions to the public test." (Hersh, Gentry, 1973, p. 3).

"Prospective teachers who are taught in such closed systems are very likely to feel trapped, caught in a mesh over which they have no control. Educational processes come to be seen as irrelevant, and teachers are all too likely to be regarded as the enemy and the system as something to be sabotaged at every opportunity. For two generations, educational leaders have pleaded the case for open systems as models for education. What an anomaly that teacher education programs should currently be going all out for a closed system and the application of industrial models to the education of teachers. Now, it may be objected that this cannot all be laid at the door of performance criteria, and, of course, that is true. But, such a frame of reference for dealing with problems can certainly accentuate a situation which is already bad enough." (Openshaw, 1972, p. 9).

"Establishment of performance criteria will not "close" the system for the student but rather it "opens up" avenues that in many cases heretofore did not exist. It further provides alternative stratgies to learning to which all of us are committed. Specifically, it can be the framework for individualizing and personalizing instruction utilizing these concepts:

1) It allows the students to share in the responsibility for their own learning by making explicit the competencies for which they are accountable and the criteria by which these competencies will be achieved.

2) It will assist students to learn at their own rate and participate in selecting strategies for their learning based on their individual needs and interests.

3) It allows the student to establish close relationships between theory and practice.

4) It allows the student to become personally involved in his own learning.

It is firmly believed that the establishment of performance-based education with the utilization of modularized instruction will assist in the enhancement of the aforementioned concepts." (Wheeler, 1972, pp. 3,4).

"In most CBTE writing, there is a notable lack of a child-centered emphasis;" (Hamilton, 1973, p. 46).

"During the 1950s the Cooperative Program in Educational Administration sponsored by the Southeast Center of the Kellogg Foundation spent hundreds of thousands of dollars on the competency approach to training school administrators. Needless to say, that also was a complete failure." (Griffiths, 1973, p. 3).

"Competency-based teacher education completely ignores its own historical bases. During the 1920s there was a similar movement called elementalist psychology, which took teacher education by storm. In this instance the idea was to take what the child was to learn and break it up into very small pieces. . . . In education it was anticipated that children taught by elementalist psychology would become mathematicians, historians, and the like. It was quickly found that while the children did learn the elements, they had no idea what it meant when they had learned all the bits. The sum of the parts did not equal the whole." (Griffiths, 1973, p. 3).

"Although we recognize the value of behavioral objectives in focusing attention upon observable behavior, we question the usefulness of behavioral objectives and performance criteria for every teaching-learning activity." (Shaftel, 1969, p. 19-20).

"A further requirement is that the competencies must be identified and be so stated that the student who is supposedly demonstration the competency can thereby be assessed. In short, a stipulation is made that a competency can be stated in assessable terms, and that which cannot--well, it is dropped from list or perhaps placed on waiting list." (Tarr, 1973, pp. 6, 7).

"CBTE proponents would also argue that a competency-based program need not become grossly oriented toward the simplistic lower-level cognitive objectives. Competency-based program operators recognize this danger and deliberately build into their program modules or activities with expressive or exploratory objectives, that is, objectives that cannot be measured, but would appear to contribute to the intellectual and social development of the prospective teacher." (Cook, 1973, p. 12).

"Some educational goals may take long periods of time for realization and cannot easily be objectified with present technology. This does not mean we should abandon such goals. There is a place for a faith in processes, in value commitments, in experimentation, even if it does not yet permit of objective evaluation." (Shaftel, 1969, p. 21).

"The area most neglected and probably of paramount importance is the problem of values. There are apparently no differences in values among the various competencies. What competence is of most worth? What guiding principles will the teacher use in setting up a field situation? The uncritical use of the word "experience" suggests that the writers believe that by placing a student in a field situation the values will emerge from the situation itself." (Tarr, 1973, p. 9).

"There is a danger that a system may become closed--that is, it may become unable to change as conditions external to the system changes. Both a system and a scientific experiment tend to focus attention and energies exclusively on events which lie within the parameters of the problem or the system. PBTE programs may be vulnerable to this problem." (Drummond, 1974, p. 38).

"Objectives are understood by a student upon entering a program and serve to focus professor-student effort toward a specific training result rather than toward nonproductive make-work tasks." (Freischlag, 1974, p. 29).

"The most important questions of education, as well as the most important questions of mankind, are those to which there is no simple, single answer. To most questions there are multiple answers or none at all. Teacher education which neglects this notion negates the right to be called education and is instead relegated to the status of a preparing technician." (Palmer, 1974, p. 364).

"If everyone can achieve mediocrity then perhaps the goal of competency based education will have been achieved. After all, what could be more predictable and amenable to accountability than a teacher corps comprised of persons who had each achieved an identical level of mediocrity? We must exercise extreme caution that in our effort to bring all teachers up to a survival level we don't inadvertently bring the potentially great teacher down to a level that is simply passable." (Palmer, 1974, p. 364).

"Rather than to determine the precise outcome, real education seeks to give meaning to those experiences which have already occurred." (Palmer, 1974, p. 362).

"In competency based teacher education designs the ends are predetermined. In fact, the objectivity of prescribed goals is one of the major advantages suggested for competency based programs. However, in real education (as compared to training) the end can never be clearly separate from the means." (Palmer, 1974, p. 362).

"There is the danger in a performance-based program to work only with those performances that can initially be identified and specified. If allowances are not made for easy modification of the program, the result could be one dealing with trivial skills and inadequate in preparing effective teachers." (Shepardson, 1972, p. 167-168).

"Some goals cannot be specified in behavioral terms. Teaching should not be restricted to just those things that can be stated behaviorally. Behavioral goals are a straw man that will restrict teaching to a series of extrinsic goals for the student. Intrinsic goals are what the students today feel are relevant. The factors of humanness (the judgments that people make about other human beings) cannot be omitted. . . .
With an entire department focused on certain desired skills, teachers are more likely to enter teaching possessing these skills. If minimum performances are specified for the students, it is much easier to diagnose and prescribe remedial measures and to work with individuals than it is to guess at where they might be or what they don't

understand." (Shepardson, 1972, p. 168).

"The madness has even spread to some teachers colleges where teachers currently in training are expected to check themselves out against thousands of teacher "competencies", another name for behavioral objectives." (Combs, 1972b, p. 10-11).

"The claim is made throughout the writings on CBTE that individualization of instruction is of paramount importance. However, the individualization is localized within the pattern set by the specificity of performances agreed to in advance. No provision is made for the student, who, perhaps is better able to understand the nature of the problem, if the problem as a whole is set before him and then proceeds to an analysis of the components that make up the whole." (Tarr, 1973, pp. 11, 12).

MECHANISTIC, BEHAVIORISTIC

A criticism frequently encountered is that the process of breaking the teaching act into discrete units results in a mechanistic teaching style, devoid of any concept of the total teaching act. Instruction based on this approach is cited as behavioristic. The following comments represent both support and opposition to these assumptions.

"The assumptions underlying the PBTE approach. . . . The teaching act is the sum of performances into which it is analyzed. . . . This is a notoriously inadequate description of any human action, let alone one so complex as teaching. . . . as a concrete action it is guided at every moment by a sense of its total pattern. This pattern, ... , integrates the analyzed constituents into a meaningful functional sequence, not merely a mechanically additive one. It would seem, ... , that . . . the PBTE mistakenly assumes teaching to be a mechanical addition of discrete performances." (Broudy, 1972, p. 3).

"Broudy suggests that PBTE advocates perceive the teaching act as the sum of performances into which it is analyzed. As he suggests, this is indeed a naive conception; but, contrary to his conclusion, we have found little evidence that PBTE advocates support such an assumption. Rather, their position is that teaching is an integration of the functional performances into which it is analyzed. Such a synthesis of performances provides various styles of teaching and a vast variety of behavior as an end product. This is demanded by the need to create new solutions to problems not previously encountered in the teacher's training. These outcomes support rather than preclude, the need to provide oneself with the competencies required to become a "synthesizing" person in a teaching situation." (Hersh, Gentry, 1973, p. 3).

"We perceive teaching/learning interactions as Gestalten that cannot be looked upon merely as the sums of particular behaviors. We do assume, however, that the prospective teacher's acquisition of specific, well defined competencies (that can be performance tested), in line with the various roles that he or she will be expected to exhibit in the classroom, will have a determining relationship with the overall teaching pattern that emerges. . . . We cannot isolate all the variables that are operating in any given teacher/student interaction. We do, however, maintain that competence, in the various tasks that we believe all teachers should be performing, will put the prospective teacher in a much better position to develop truly professional interaction patterns with students." (Sinatra, Masla, 1973, p. 4).

"To assert that the whole of teaching is not equal to the simple addition of its parts is, of course, a valid assertion. However, even traditional teacher education programs fractionate the acts of teaching via courses, lectures, readings, etc., into smaller and smaller units. Even humanists who would embrace the whole, when they discuss teaching, must address themselves to its parts. CBTE does not deny that fractionation occurs. It is, in fact, deliberate. But CBTE has the edge over traditionally fragmented programs, in that the parts are made more explicit in an attempt to make sense of the whole. As long as one is involved in the evaluation of teaching and learning, fractionation will go on. As long as there is a desire to study teaching, fractionation will occur.

The real question for CBTE is to determine at what level of specificity the parts must be defined. The question of how discrete the units must be is an empirical one and, at the present time, has not been completely answered." (Rosner, Kay, 1974, p. 293-294).

"Questions Criticism - The "sum of the parts" does not always equal the whole; and thus, the mere fact that students are able to demonstrate competence in isolation does not guarantee success in the classroom. Retort - Certainly no one could successfully argue with such a profound and truthful statement. In fact, this is one of the major reasons why we are excited about the new concept. In the conventional program we are not certain what component parts are available to sum, and thus it is nearly impossible to even begin to look at the whole. In a competency based program because the component parts are identified and categorized, we have the unique opportunity of ascertaining whether the sum of the parts does indeed equal the whole. Remember that one of the goals of competency-based teacher education is the training of teachers who are able to demonstrate their ability to be effective with pupils, and that individual competencies are only the vehicle for reaching that end. We must caution, however, those who are entering this field that in writing specific objectives for a program, the program goal must always be kept in mind and each individual part must be compatible and contribute to the whole." (Arends, Elmes, Masla, 1972, p. 5).

"The importance of this question lies in the fact that the definiteness and therewith the testability which is overtly or covertly claimed for the PBTE, relies on slicing up the teaching act into small, easily identifiable, behavior sequences. However, when the PBTE is accused of reducing teaching to such bits, the retort is that no sensible PBTE would think of doing such a thing; that performance is to be taken broadly to include such abstract and complex operations as diagnosis of reading difficulties and mistakes in logic; of conducting class discussions on social issues. But insofar as this is so, what becomes of the definiteness of both the task and of the criterion for successful performance of it? And without this ease of task identification, what becomes of the presumed advantages of the PBTE over conventional programs?

Furthermore, if there is no wide agreement as to the task-sets to be used as targets for the training of the teacher, what assurance is there that school systems can employ teachers trained on different task-sets?

It would seem, . . . , that . . . the PBTE mistakenly assumes . . . that performance units must be equated with the whole teaching act, or segments of it that are large enough to be functional wholes in themselves . . . what shall count as a performance?" (Broudy, 1972, p. 4).

"The second assumption Broudy claims for PBTE is that the character of performance units (desired student behaviors) can vary from one program to another--that the performance unit is a matter of indifference. This statement indicates a superficial understanding of the PBTE basic premise it is more reasonable to apply this assumption to our traditional programs, where dependency on secondary criteria, rather than on learning outcomes, has resulted in an indifference to what is taught. . . PBTE is a systematic approach designed to aid in finding most appropriate answers. Performance-based instruction requires that the objectives and criteria for success be made public (i.e., PBTE forces us to make our hypotheses about teacher education public and to gather data to validate or deny such assertions). Because we have not made these hypotheses public in the past, solutions have not been found. Thus, PBTE is a beginning point, not a closed narrow program as assumed by Broudy. Denying systematic empirical data gathering to verify those logical postulates would dead-end us in a secondary criteria trap. This does not mean, however, that PBTE advocates have the answers; they do not." (Hersh, Gentry, 1973, p. 3).

"The development of our competency units is not a matter of indifference but rather a matter of operationalizing the philosophic point of view from which we begin. The performance testing of these educational biases could, we believe, give us some good indications of their relative validity." (Sinatra, Masla, 1973, p. 4).

"The second assumption that Broudy attributes to PBTE states that the performance unit is a matter of indifference. We view this statement as, at best, embodying the unbridled use of hyperbole. There are several educational philosophies which enjoy somewhat wide acclaim in this country at this time. A PBTE program developed to implement the types of classroom interactions that one educational philosopher extols would not contain the same competency units as a program developed to implement the types of interactions acceptable to another. . . . We hypothesize that two independently developed PBTE programs, even if they both attempted to operationalize the same educational philosophy, are likely to wind up with discrepant performance units (especially with regard to the scope of individual units). We also hypothesize that, over a period of time, field testing and professional dialogue would bring them into congruence." (Sinatra, Masla, 1973, p. 4).

"A unit of performance can be determined through factor analysis or competencies already identified and determining which have consequences or behavioral benefit." (McDonald, 1973).

"Thus we may well be concerned that PBTE will lead to an atomization of experience, a separation of cognition from affect, of skill from attitude, of fact from value. It is unjustifiable to hold teachers or institutions accountable for the development of teaching skills without also holding them accountable for all the concomitant attitudinal and affective changes that occur in the skill training."
(P. Nash, 1973, p. 11-12).

"We strive to turn them exclusively into competent functionaries by giving them a rigid, skills-centered curriculum which borders on the inconsequential and the nugatory. They ask for a program which balances the need for performative skills with the insights gained from concerted self-understanding and self-definition. We offer them our fetishes and insist on their allegiance." (R. Nash, 1970, p. 241).

"If we are preponderantly occupied with staffing classrooms and administrative offices with functionaries who have been cautioned never to be doctrinal deviationists or who have been effectively deterred from making a systematic examination of a variety of educational criticisms, we are succeeding only in providing schools with a plethora of talented robots." (Nash, Agne, 1971, p. 152).

". . . loss of many of our brightest, most idealistic students to neoromanticists. Our students envy the romantic's willingness to question the mechanistic-positivistic assumptions which the competency model presupposes." (R. Nash, 1970, p. 240).

"Will such conformity provide teacher robots who will then produce talented student conformists?" (Instruction, 1973, p. 18).

"Will it tend to produce technicians, paraprofessionals, teacher aides, etc., rather than professionals? Does it deal only with instrumental values and not with consumatory values?" (Elam, 1971, p. 17).

"Preoccupation with precise objectives also makes practices irrelevant to the needs of those whom we are educating. One of the saddest aspects of our current press in this way is the contribution it makes to the further demoralization of those involved in the process . . . . A characteristic response of too many demands is to close them out of consciousness and confine oneself to those details he can do mechanically without a great deal of necessity for thought." (Openshaw, 1972, p. 10).

"One of my concerns about competency based teacher education is that measures of performance are used which, because they measure behaviorally and objectively, disproportionately value routinized aspects of classroom management. . . . The only competency-based teacher education system I could accept would be one in which performance skills are but one aspect of the preparation effort." (Agne, 1972, p. 2).

"The question is whether the performance-based approach to teacher preparation is a commitment to producing men of experience only, i.e., competent craftsmen, or whether the performance approach is compatible with producing what Aristotle refers to as the artist or what we would call the technologist, the practitioner informed by knowledge and understanding." (Broudy, 1972, p. 7).

"The question one must ask is not so much whether or not professional education is anti-intellectual, but rather how did it come to be this way and why does it remain so. . . . I submit that competency-based teacher education as it is presently proposed is the height of anti-intellectualism. It presumes to reduce teaching to a set of performances that can be imitated by relatively untrained people such as para-professionals. Competency-based teacher education as it appears to be conceived and practiced is quite the opposite of the professional approach to teaching, that is, the education of teachers who are conceptualizers, and who understand their tasks in a broad, theoretical framework." (Griffiths, 1973, p. 1,2).

"In effect, as teaching acts are given priority over principles that guide the act, teacher education is being deintellectualized: If we do no more than prepare teachers to respond to specific stimuli in predictable ways we are producing teachers who are obsolete as soon as the stimuli change. The most potent defense against professional obsolescense is mastering the principles, abstractions, and formula of teaching sufficient to understand and cope with change. In short, education can and should be studied as a discipline and not as narrow vocational preparation." (Palmer, 1974, p. 360).

". . . the false impression that PBTE will produce a professional teacher, for, if my analysis is correct, it cannot provide the necessary theory unless it gives up all claims to distinctiveness. And without distinctiveness, what will become of its polemical thrust? I believe PBTE, if it sticks to its principles, probably can turn out better didactical technicians than the standard programs do and probably more economically. . . . I am afraid that PBTE, if it goes down This road, will be just another way of evading the task we have never seriously undertaken--to turn out a genuinely professional trained teacher." (Broudy, 1972, p. 14).

"Will future teacher-preparatory students be locked into systematized programs that expose them only to narrowly-defined managerial and instructional units?" (Instruction, 1973, p. 17).

> "Does competency based teacher education place too much emphasis on teaching skills and too little on conceptual understandings?

Broudy (1972), in a critical examination of the PBTE movement, answers in the affirmative. He argues that a teacher education program must teach theory as theory somewhere. He contends that "this, it seems to me, is inconsistent with the PBTE approach if taken seriously." Throughout his essay Broudy narrowly interprets the term "performance" to mean behavioral acts which the teacher is trained to apply in certain circumstances without really understanding why he is behaving in such a manner. Part of Broudy's misunderstanding stems from his narrow use of the term "performance." This narrow interpretation is one reason why many teacher educators prefer the term "performance."

If competencies can be thought of as knowledge, performance, and consequence outcomes expected of teachers, then competencies that require an understanding and application of theory are not at all inconsistent with the CBE approach. Indeed, they are most consistent.

Burke (1972) has stated of CBTE that, "Its philosophy is based on the concept that teachers and students alike must gain a basic competence in the individual capacity to cope with whatever situation arises." In order to cope, a teacher must be able to diagnose situations, interpret, and then act. To do this requires sound theoretical understanding, particularly in the behavioral and social sciences. It is possible for a competency based program to place too little emphasis on the importance of conceptual understandings but this is not a problem inherent in CBTE."

Broudy, Harry S. A CRITIQUE OF PERFORMANCE-BASED TEACHER EDUCATION. PBTE Series: No. 4. Washington, D.C.: American Association of Colleges for Teacher Education, 1972.

Burke, J. Bruce. "Curriculum Design," COMPETENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972. Chapter 3, pages 34-55. (Weber, Cooper, Houston, 1973, Issue 11).

". . . heuristics refers to the effort to help the pupil discover for himself either the contents of a body of knowledge or the methods of arriving at such knowledge and assessing it; philetics is merely a Greekish name for love or securing rapport with pupils or, as the current jargon has it, "relating to pupils."

. . . Heuristic and philetic teaching do not lend themselves to the precise analysis, specification, and evaluation which is the presumed glory of the PBTE.

Success in heuristic and philetic teaching cannot be judged by pre-specified appropriate pupil behavior because such behavior--even when we can identify it--is not manifested on demand or at a specific time. Critical thinking, the use of the imagination, warm feeling toward peers, achievement of identity cannot be inferred from one segment of behavior used as a test pattern." (Broudy, 1972, pp. 5,6).

"One alternative to inflexible curricular structures is competency based or performance based education. At its best, performanced-based education develops an integrated conceptualization of the performing teacher and specific training procedures to achieve that goal. At its worst, performance-based education can be a nightmare of unrelated miniscule modules complete with pre-tests and post-tests for each one. However, given the opportunity it can reap the advantages of training precision, flexibility and self-direction of a program which has been developed utilizing performance-based criteria while not sacrificing the humanistic elements of personal contact, variety and type of instruction, and the ability to meet each person where he is and take him as far as he is capable. What is needed is that the instruction should be conceptualized, integrated and geared to identifiable and assessable objectives without a nightmare of tests and overly mechanistic strategies." (Wheeler, 1972, p. 1).

"Criticism: CBTE is behavioristic.
Response: CBTE frequently has nothing to do with behaviorism. Behavioral objectives do not make a behaviorist, nor does feedback. Behaviorism is this plus certain assumptions about learning, such as the reinforcement paradigm. This is not CBTE." (McDonald, 1973).

"What is the relationship between the competency based approach and behaviorism?

Some people hold that a CBTE program is one in which the prospective teachers are trained through the use of behavioral modification techniques. This is a misconception which probably stems from CBTE's use of such terms as performance criteria, behavioral outcomes, and systems approaches.

Behavioral modification techniques are sets of procedures for changing one's behavior using operant conditioning. While these techniques could be used in a CBTE program, there is nothing inherent in CBTE that requires their use. In fact, the humanistic concerns of CBTE--the emphasis on personalization--argue strongly against the use of behavioral modification techniques.

Most CBTE programs are based more upon modeling theories of learning than upon notion regarding operant conditioning. There is considerable evidence that in cases where intricate patterns of behavior are demanded, such as in teaching, modeling the desired behavior is an indispensable part of learning. As Burke (1972, page 38) has stated that evidence suggests that systematic demonstration of behavior by models can lead to more efficient learning than does the normal trial-and-error haphazard learning through modeling. If teacher education is effectively to modify the behavior of its clients toward professional teaching competencies, than both the curriculum and the teacher educators must exemplify the desired behaviors." (Weber, Cooper, Houston, 1973, Issue 14).

"CBTE pushes educators to design educational personnel development programs in their totality and in relation to the competencies required for particular roles. . .

. . . CBTE strategy forces educators to consider the program Gestalt rather than its bits and pieces. The Gestalt should be conceptualized in relation to the competencies required for particular professional roles." (Massanari, 1973, p. 246).

". . . the failure has occurred because we have made a fetish out of the competency model. We are in danger of reducing the entire teacher training program to such trivializing exercises as the preparation of general and specific instructional objectives. We are becoming excessively preoccupied with performance criteria, behavior modification, and a whole congeries of related competency concepts. We are in the process of gleefully devising an incomprehensible methodological nomenclature based on the precepts of operant conditioning. We are rapidly approaching the point where we are speaking a quasi-mystical language which bears little resemblance to the real world." (R. Nash, 1970, p. 241).

"For instance, deriving the means of a distribution is called a competency at the University of Toledo. This, Broudy tells us, is transubstantiation by semantic incantation. It is a typical reaction of professional educators: what they are doing has so little intellectual rigor, they use words they like to describe their work. This manifestation of anti-intellectualism in CBTE relates to the product and to the implications of the movement for education." (Griffiths, 1973, p. 3).

> "Does competency based teacher education with its emphasis on specific objectives and use of instructional modules approach foster atomistic learning?

Competency-based designs for instruction often are attached as simplistic solutions to complex learning problems, attempting to reduce all experiences to precise, skill-oriented objectives. Such a criticism -- invoking the fallacy of division--would be valid if competency-based curricula were built solely on the concept that an effective teaching performance can be ensured by reducing the complex performance of its smallest identifiable parts. Although precion in specifying the parts of the teaching act is indeed a strategy in competency-based curricula, the conceptual framework for design of such curricula is much broader. It aims at an all encompassing view of the learning process and of the needs of learners." (Burke, 1972, p. 35).

"Some critics have argued that the modular approach advocated by many CBTE supporters tends to fractionalize the program and prevent the students from achieving a gestalt of the total program. There is no doubt that this is a possible danger of the modular approach. However, most CBTE developers are aware of the problem and have taken safeguards to protect against this danger. One safeguard is to cluster the modules under organizational labels that connect concepts and competencies that are related. Another protection is to provide a rationale statement for each module in which the relationship between this module and its expected competencies and other modules is explicated. Further, the competencies may be placed within the professional role context thus helping the student understand the broader picture." (Weber, Cooper, Houston, 1973, Issue 27).

"CBTE has further inflamed the philosophic debate between the behaviorists and the humanists. The latter fear that trivial "laundry lists" of teacher competencies may preclude the search for other types of competencies that defy precise measurement. Some feel the effort to force all the purposes of teaching into a behavioral mold may be an impossible exercise." (Hamilton, 1973, p. 24).

"How can bold experimentation and imaginative views leading to renewal of the educational system be encouraged? Will the adoption of performance criteria make it even more difficult than it is now to initiate alternatives to current educational practice? If we become preponderantly occupied with staffing classrooms with functionaries stamped, "O.K. for teaching reading," or "writes acceptable behavioral objectives," then I am afraid we have succeeded only in providing our schools with a plethora of talented robots." (Agne, 1972, p. 4).

"Let us not get so excited about self-authenticating model of teacher education which apes scientific models, that we fail to acknowledge that there are aspects of human experience to which today's methods of natural science are not applicable." (Agne, 1972, p. 4-5).

"Others would object that a modular approach common to existing PBTE programs threatens to trivialize the curriculum by fragmenting any subject matter into components which may help the student to develop particular skills or gain certain pieces of knowledge but which do not effectively relate the parts of a subject to one another or the work in one discipline to similar work in other disciplines. Academicians repeatedly note that the most significant experience in the liberal arts and sciences are not easily, discretely, or immediately measurable." (Shugrue, 1973, p. 6).

"Most seriously, PBTE could be interpreted as a prime example of the "accountability fad" in education and as the latest attempt to impose a highly questionable systems approach on education. . . . Proponents of a systems approach to education often fail, first of all, to understand the essential difference between efficiency and cost effectiveness on the factory assembly line and the intelligent, humane use of educational resources to foster individual student learning." (Shugrue, 1973, p. 4).

"We must guard against a widespread tendency to trivialize the problems of efficiency in higher education. It is not only a financial problem but an intellectual one." (Newman, 1971, p. 32).

"Is this concept (PBTE) modeled after a technological-industrial philosophy of the structure of society? If so, it may lead to alienation of the students as industry has of its people." (Colleges and Universities) (Final Report AACTE, 1973, p. 8).

"The view that PBTE is merely another example of the invasion of education by business , on a par with the exchange of a guaranteed student performance for a fixed sum of money, is an oversimplification. Nevertheless, the performance that is demanded in PBTE is often spoken of in language that is closely akin to that used to describe attempts to raise industrial productivity or business efficiency. We should be sensitive to the use of the metaphor of industrial productivity or business efficiency. We should be sensitive to the use of the metaphor of industrial productivity and try to estimate its appropriateness to the tasks of teaching and learning." (P. Nash, 1973, p. 8).

"We must also, I am convinced, critically question the conception of learning as a "product" and in many respects, the idea of "performance" especially when behaviorally conceived. If our concern is for growth, development, and reflectivenss, the managerial construct and the faculty metaphor are irrelevant." (Greene, 1973, p. 12).

"Can educators afford to adopt a business-technological model which describes learning as a product?" (Hungerman, 1973, pp. 5-6).

"There are significant dangers, from a humanistic viewpoint, in an uncritical use in PBTE of industrial notions like productivity, efficiency, and cost-effectiveness . . . . To say that cheap programs are in and expensive programs are out may be sound business practice, but it does not meet the criteria of humanistic education." (P. Nash, 1973, p. 8-9).

"The teaching profession can ill-afford to permit turning teachers into competent technicians who are accountable to the public only on the statistical basis of how they teach each child to read, to write, to compute, -- or even to pass tests successfully or to take his place in the economic systems as a contented consumer." (NJEA Review, 1973, p. 19).

"Finally, when the student has reached the point of an "adequate conception of the goals of teaching" role integration takes place. What is this role? Well, the student moves from mastery of specific techniques toward "diagnosis and selective utilization of such techniques in combination." Anyone who has taught--not trained--but taught pre-service teachers will certainly recognize this is as an aborted description of the teacher role." (Tarr, 1973, p. 8).

"First, the classical position, particularly when combined with systems analysis and behavioral objectives, leads to an apparently atomistic approach. Objectives are organized hierarchically, and the student progresses systematically from one to another. We do not mean to argue against the use of analysis and system, both of which are clearly essential if teaching is to be conceived of as anything, but a subjective art. However, obviously only some of the many aspects of teaching can be thus isolated for study. We are concerned that to the inexperienced teacher these aspects become the sum total of teaching. The criteria by which these aspects are isolated for study ought to be so related to overarching concepts of education that the trainees could consider alternate criteria and teaching paradigms." (Shaftel, 1969, p. 26).

"Instruction generally moves from mastery of specific, partial techniques toward the diagnosis and selective utilization in combination of such techniques in broadly inclusive situations--in other words, role integration takes place as the learner gains an increasingly comprehensive perception of the teaching situation." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 9).

"Why do I feel that PBTE/C may be a "No Exit" syndrome? For two reasons . . . . The "exit" many SED's seem to have in mind is either another level of certification or another certification in five years and after that, another in five years, and so on. Again I stress, false exits for teachers are no exits. . . . Some aspects of PBTE/C appear to force teachers into a narrow, behavioristic mold. Will there also be room for the existentialist-teacher, the one who arouses personal responses in his or her students, the one who awakens students to choice and responsibility and is himself or herself awake to choice and responsibility? . . . Are schools to become a living hell too, made up of a staff of "teaching robots " and "official school astrologers?" Will "Peebtec" be the new virus which causes the death of teachers' freedoms by reducing their choice to a list of eternal behavioral objectives? Or will we listen to men like Arthur Combs who reminds us that "Professional educators should know better." (Bhaerman, 1974, p. 8-9).

"Competency based teacher education presumes to prescribe specific skills and techniques required of all teachers. The danger of this narrow view is that the object of these activities lends itself readily to the performance of required routines without a comprehensive understanding of the principles underlying the tasks. This method of preparing teachers views teachers as interchangeable parts and reduces teacher education to a sophisticated trade school. It is difficult to imagine the great teachers of antiquity subjecting themselves to competency based programs." (Palmer, 1974, p. 364).

"Competency based programs stress the skills needed to enhance the student's economic future in a tight job market, to the exclusion of real education born of understanding which will enable the person to cope with life at various levels.

The emphasis on job preparation regards people as instruments of production and teaches them to regard themselves as such. These same people, when they get teaching jobs, will have no alternative but to view their own teaching as the production of people for the economic system. Preparation for jobs will take precedence over preparation for living. Education must be more than vocational preparation." (Palmer, 1974, pp. 363,364).

"Education requires two aspects: 1) the acquiring of new information and 2) discovering personal meaning for that information. Information in itself is reduced to the level of training. Only when individuals find the link between specific information and a significance and meaning in their personal experience can education be said to occur. . . . While it is true that it is possible to build the individual's assimilation of his experiences into programs of competency based teacher education, too often it is not done. Designing the process is so much easier than dealing with the person in the process that those most difficult tasks are neglected for the simple tasks which allow some type of closure. Real education can never assume closure, for human beings who are learning and growing allow no place for closure in their education." (Palmer, 1974, p. 363).

"The factory model, although logically sound in terms of sequence of subject matter and orderly progression is not psychologically sound in terms of the unfolding of human learning. The factory model is at best a useless model for education. A university and a factory have nothing in common." (Palmer, 1974, p. 362).

"Competency based teacher education, by emphasizing those tasks easiest to define and place in modules, may trivialize teacher education to the point that it no longer deserves to be called education at all. A more accurate term may be teacher training or perhaps more accurately vocational training for teachers." (Palmer, 1974, p. 361).

A persistent criticism of CBTE is that it is anti-humanistic, unrelated to needs of individuals and the concepts of a humanistic education. This position is presented and challenged by the authors of the following statements.

"Perhaps PBTE will lead to a rehumanization of teacher education. It does seem to hold promise of weeding out some anachronistic and tyrannical traditions and opening up some alternatives and options. But if it is to serve humanistic purposes it must constantly be subjected to critical examination." (P. Nash, 1973, p. 15).

"CBTE helps each person become independent and self reliant, if it makes him more competent then you are helping him and therefore, it is humanistic in a real sense." (McDonald, 1973).

"To the degree that PBTE demands predictable outcomes, fixed goals, and measurable performances, it threatens the nurture of that atmosphere of unpressured, present-oriented playfulness that is a crucial element in the development of creativity." (P. Nash, 1973, p. 7-8).

"Question Criticism- Because the Competency Based program has as one of its foundations a systematic approach, it is mechanistic and dehumanizing."
Retort-On the contrary a Competency Based program offers the student the opportunity to be very selective in his instruction activities. The emphasis is on the goals and objectives, and not the means. We would assume that even a conventional program has some goals or objectives no matter how loosely defined and hidden. A Competency Based program liberates the student and individualizes the entire process.

Certainly nothing is more dehumanizing than the traditional instructor-student relationship in most institutions of higher learning where the student is often at the mercy of the capricious and often hidden criteria of the instructor." (Arends, Elmes, Masla, 1972, p. 5).

"We believe that a competency model for teacher education can ultimately prove to be both a practical and a humane response to those students who want to change the status quo through their teaching commitment. But before this is possible, we must realize that the competency curriculum is but one methodological approach to the preparation of teachers. Competency must never become an all-embracing, sacralized idea-system that treats as heretical any critique of or departure from its tenets. We must also realize that teacher preparation can be made to serve the reform needs of students only when its performance proclivities are subordinated to the collaborative student-instructor quest for a larger sense of purpose in the educational-social venture." (Nash, Agne, 1971, p. 149).

"Predictions that correctly forecast the behavior of large groups of people are frequently helpless to tell us what any one person in those groups will do. PBTE with a humanistic tone would therefore respect this human uniqueness and unpredictability and be highly conscious of the dangers of crushing some of man's most essentially human qualities under a weight of behavioral objectives." (P. Nash, 1973, p. 4).

"Humanistic education gives considerable importance to self-motivation. It is assumed that tasks calling for long-lasting commitment, a great range of a person's capabilities, or special creativity or initiative, require strong intrinsic motivation for their accomplishment. But where PBTE rests upon one group of people establishing objectives for another group of people to meet, external motivation, in the form of various rewards and punishments, will usually be employed. Thus we risk increasing student passivity and the inability to make strong choices and develop personal goals. We also tend to focus education on those routine and simple tasks whose performance is most amenable to external motivation." (P. Nash, 1973, pp. 3-4).

"CBTE pushes educators to individualize and to personalize instruction and learning experiences. . . . Because CBTE initially takes into account a student's achievement level and because it incorporates self-paced learning, educators are pushed to attend to individual learner needs, learning rates, and learning styles. Instruction is personalized when students have a voice in determining the objectives they are expected to demonstrate, are free to select learning experiences of their choice to achieve tne objectives, participate in determining the conditions in which their competencies are demonstrated, have opportunities for small group work with peers and instructors, and receive continuous advisement and counseling. CBTE pushes educators in these directions. (Massanari, 1973, p. 246).

"The promise of PBTE is in the fact that greater attention is given to variation among individual abilities, needs, and interests." (Elam, 1971, p. 14).

"PBTE removes students regularly from the campus into field settings and emphasizes individual study and progress rather than class-course organization, thus tends to isolate the people involved. . . many aspects of the PBTE approach could be conceived as Skinnerian, dehumanizing, . . . , it it important that programs be managed in such a way as to minimize isolation." (Elam, 1971, p. 20).

"However, there are also some hazards in PBTE that threaten humanistic values. One of these hazards lies in the process of classifying itself. There can be no PBTE without classification of people. But to decide to classify students is a value choice. . . The danger is that the process of classification becomes so attractive and mind-satisfying (not to say soul-satisfying) to the classifier, that he continues the process even when clear justification has ceased and he may convince people (often including himself) that the labels of classification have a permanence and significance that in fact do harm to human potentiality." (P. Nash, 1973, p. 5).

"But we must recognize that formidable difficulties and serious dangers to the nurture of creativity also accompany PBTE. When we set out to measure performance it is difficult to avoid notions like right answers, correct behavior, and predicted outcomes. But creativity suffers badly under such conditions, for creative solutions or inventions are necessarily unpredictable and usually unique to a particular problem or condition." (P. Nash, 1973, p. 7).

"Also, we are hawking the notion that what constitutes learning in any acceptable educational situation in only that which is observable, demonstrable, and objectively defined. Finally, we are conveying the belief that the most "professional" teacher is the one who concentrates solely on imparting a variety of skills to his pupils, while systematically detaching himself from the personhood of his students and from the bewildering social events which rage just beyond the walls of the school." (R. Nash, 1970, p. 241).

"Students are locked into a systematic, sequential, and continuing program that exposes them to a series of managerial and instructional units whose ultimate objective is to achieve the purposes of the program. The self-validating circularity of the competency curriculum effectively militates against the student's personal search for meaning and self-integration, because it assumes a priori that students who want to become teachers have resolved value and identity conflicts before they enter the program. Such naivete' would be humorous if it were not so wide-spread in teacher education today." (Nash, Agne, 1971, p. 151).

"Question, Criticism - A Competency Based program claims individualization, and yet each student is expected to display the same competencies; this claim does not seem consistent."
Retort - A Competency Based program allows the student the opportunity to engage in an individualized instructional program. It does not espouse an individualized outcome; indeed, this is what we are trying to avoid. If the proponents of individualization expect

each student "to do his own thing" without regard to goals or objectives, then why have any program at all? For example, we feel that if a student wants to be certified competent in the teaching of reading then he must display the ability to be effective using a variety of approaches. If he is allowed to either avoid any display of competence in this area, or if he is allowed to select one or two specific methods of treatment, then he is not competent to teach reading to all pupils." (Arends, Elmes, Masla, 1972, p. 5).

"A performance-based program that meets humanistic criteria will be one that serves to enhance the unique teaching-learning style of each individual. The alteration of trained behavior among teachers may not be the best way to improve the quality of the teaching-learning process. . . . A constant danger in the behavioral approach is that of backsliding once the reinforcement is removed. If the "right" way to teach is not congenial to the teacher's unique personality, she will tend to abandon it when she is not being observed or measured." (P. Nash, 1973, p. 6).

"Robert Nash and I have called attention to what we see as a glaring inadequacy in the competency-based model, namely its exclusion of structured opportunities for students to explore, express, and comprehend their feelings. . . . Bluntly stated, the competency model has failed to inspire many education students. We believe that students will continue to look for professional preparation programs that will enable them to develop their human potentialities as persons. Many come to us seeking alternative to the technocratic world view which has fostered specialization and professionalism. They see a competency based preparation program as a tight, systematic way of producing conformists supportive of the educational "status quo" . . . all in the name of "professionalism." The challenge they give us is this: How can a competency based model which encourages mastery of skills and a tight sense of professionalism avoid perpetuating the established values of this technocratic age?" (Agne, 1972, p. 4).

"It seems possible that PBTE can bring about some of the structural flexibility that encourages creativity. For example, one can already see promise, in the literature at least, that PBTE can increase the number of routes to certification, break the monopoly of conventional teacher training institutions, introduce more alternatives and perhaps a genuine pluralism into the system, and be deliberately designed to encourage innovation and experimentation." (P. Nash, 1973, p. 7).

"The reason for thinking in terms of a plurality of options for students rather than in terms of a single, fixed curriculum should be obvious: Individual choice and the attendant process of becoming personally responsible for one's own directions are basic to the development of commitment--that drive which animates the most successful people in the helping professions. . . . The issue is whether each prospective teacher can be made to feel that his program decisions (based on diagnostic data, professional advice, and individual goals) are shaping his career." (Strong, 1974, p. 342).

"One of the reasons that competency is implicitly repugnant to some of the young is because it suggests that, at best, their lives have worth only if they are trained and qualified to perform a given professional function." (Nash, Agne, 1971, pp. 150,151).

"As products of the larger culture's basic value system, we have embraced a model which promises immediate, demonstrable results. But what we have been asked to surrender is an epistemology which allows for the significance of non-cerebral, or non-intellective, learning. Also, we have been asked to ignore or underplay that dimension of human behavior which is activated by one's value perceptions. And, finally, we have been cautioned to suspend any substantive judgments about the morality of the system we are preparing students to face and to accommodate." (R. Nash, 1970, p. 241).

"This leads us to the problem of the persistent tension between the unique, personal meanings that the individual gives to events and the general standards of behavior that society demands of him. A humanistic education would help us to live with this tension without fleeing from one pole or the other. A danger in PBTE is that it may militate against the maintenance of this tension by an inappropriate or unduly exclusive focus on external behavior. . . . The performance-based approach, with its focus on external behavior, may direct us away from the most important elements in education, which lie in the personal meanings that people give to events. The causes of behavior lie always in these personal meanings rather than in the external appearance of events. But since these meanings are personally unique they are not amenable to general measurement." (P. Nash, 1973, p. 5).

"Overall, what is at issue is the tension or conflict between the claims of society on the individual and the claims of the individual for himself. PBTE serves to remind us that the individual does not live alone, that his actions have consequences for others, that membership in society implies obligations through measurable performance. On the other hand, a humanistic quality is required in PBTE to remind us that the individual is not wholly explained by his group, that he is something more than a member of society, that his person is more precious than his membership label, and that human life is impoverished if demands for performance snuff out or depreciate the individual's unique capacity for joy, zest, curiosity, awe, wonder, or humor. In the face of a largely unpredictable future, it is difficult to justify the sacrifice of such individual human qualities for the sake of higher performance in skills or attributes whose future worth cannot be reliably estimated." (P. Nash, 1973, p. 6).

"What, then, would be a humanistic notion of productivity? It is one in which the productiveness comes from the center of the person. It is creative energy as an expression of individual potency. The humanistic ideal of the productive teacher would be more closely akin to the creative artist than to the assemblyline worker." (P. Nash, 1973, p. 9).

"There is also the danger that external demands for "productivity" from teachers may have deleterious effects on their morale if the forms of productivity are unrelated to their inner needs and goals. One consequence of PBTE may be to make teachers feel greater pressure, anxiety, inadequacy, and guilt, feelings that are dysfunctional in their work with students." (P. Nash, 1973, p. 9).

"A more radical criticism of the notion of productivity inherent in PBTE would question the entire value of producing and doing, of being active and useful. There is a strong climate of skepticism, especially among young people, about the superiority of these typically American values . . . . These views, although oversimplifications, serve to remind us that an educational program that focuses on product so exclusively that the nature of the process is ignored, runs grave risk of being dehumanizing for the participants." (P. Nash, 1973, p. 10-11).

". . . humanistic psychology. . . is perceived as paying more respect to the quality of the individual's ongoing experience. This may be unique and not behaviorally measurable, but to sacrifice it on the alter of productivity may be to throw away that which is of central human value." (P. Nash, 1973, p. 11).

"The lack of clear consensus on the basic skills that should be possessed by the teacher may lead to a demand that he be held accountable for certain student learning outcomes. In this case, the teacher will compare disadvantageously with, for example, the doctor, who is held accountable for prescribing properly, but not for whether the patient is cured or not. To hold the teacher accountable not only for what he does but also for what the students learn is to deny certain humanistic assumptions about the freedom of people (in this case students) to respond as they will to others' inputs. Making the teacher accountable for precise student learnings may merely serve to increase the dependency of the student on the teacher." (P. Nash, 1973, p. 12-13).

"A humanistic education would foster values like interdependence, collaboration, equality, and dialogue, rather than dependence, competition, hierarchy, and control over others. At the center of a humanistic program would be a concern with the quality of human relationships. One might fear that such humanistic values would be threatened if PBTE engenders competition for higher productivity and beter "behavior." (P. Nash, 1973, p. 14).

"PBTE is in danger of merely perpetuating the thrust of traditional schooling by putting students in the situation where they see others as treats to themselves. Individual performance to meet someone else's requirements fosters the notion of schooling as selection and is divisive of human relationships. The humanistic approach encourages the development of situations in which students regard one another as potential resources." (P. Nash, 1973, p. 14-15).

"The reliance of PBTE on individual psychology may divert our attention from the study of the social, economic, and political contexts of schooling." (P. Nash, 1973, p. 15).

"What provisions will provide students opportunities to explore, express, and comprehend their feelings? Will they be able to develop their human potential as persons? Or will they be limited to mastering a series of routinized tasks vis-a-vis B. F. Skinner's behavioristic psychological theories that completely ignore the entire affective domain wherein human values are learned?" (Instruction, 1973, p. 18).

> "Does competency based teacher education facilitate or hinder personalization of the teacher education student's instruction?

CBTE facilitates the personalization of instruction. In a CBTE program the student is held accountable for the demonstration of specified competencies; it does not hold the student accountable for the acquisition of those competencies. That is, he is accountable for the learning outcomes, not for learning activities. Consequently, the student is free to engage in the learning experiences of his choice. Indeed, he is free to design his own learning. And, to the extent possible, learning is self-paced; self-sequenced, and individualized.

Two other features found in CBTE programs also contribute to personalization: 1) many programs allow the student to negotiate the objectives he is expected to demonstrate; most will allow the student to negotiate the conditions in which his demonstration is assessed; and 2) most programs place an emphasis on small group work and seminars which place the student in closer contact with instructors; also, many programs include opportunities for continuous advisement and counseling." (Weber, Cooper, Houston, 1973, Issue 25).

"And it may well be that a judicious use of PBTE can help to break open some old rigidities, such as grades, credits, and schedules, and introduce some flexibility and alternatives that will constitute a humanizing influence on teacher education. It also holds promise of enabling teachers to become certified without ever attending an institution, a promise that might have a humanizing effect even before its realization." (P. Nash, 1973, p. 4).

"There are significant dangers, from a humanistic viewpoint, in an uncritical use in PBTE of industrial notions like productivity, effeiciency, and cost-effectiveness . . . . To say that cheap programs are in and expensive programs are out may be sound business practice but it does not meet the criteria of humanistic education." (P. Nash, 1973, p. 8-9).

> "Does the competency based teacher education movement conflict with the "humanistic" or "open education" movement?

At first glance there appears that there may be some basic conflicts between the CBTE movement and the "Humanistic" or "open education" movements. If one goes beyond the first glance, however, it can be seen that they share some common concerns and characteristics.

A common concern is that the teacher education process be relevant and humanistic is its orientation. In order to do this, the program must be personalized. Schalock and Garrison (1973) describing a personalized program in a competency based format, state that to personalize a teacher education program attention must be given to four aspects of curriculum planning and implementation: 1) the need to consider ways and means of bringing the learner into face-to-face contact with instructors and peers throughout the instruction-learning process; 2) the need to meet individual differences throughout the process; 3) the need to provide the learner with opportunities to participate in the design of his personal instruction-learning plan; and 4) the need to involve the learner significantly in the design and development of the larger program of which his personal plan is a part.

"Some "humanistic" educators take the position that teacher education students should be allowed free rein in the design of their own programs; that is, there should be no requirements since each person knows best what is relevant for him. Most advocates of CBTE, while encouraging goal negotiation with students, maintain that there are some competencies that they would require students to demonstrate. In this respect there is a difference in philosophy between advocates of CBTE and certain "humanistic" educators." (Weber, Cooper, Houston, 1973, Issue 13).

"PBTE may result in the reform of educational technology but its focus on efficiency may lead to a neglect of the culture, which will more than nullify the technological changes. PBTE tends to focus on the surface curriculum . . . . We cannot hope to rehumanize our society by merely tuning up our educational technology. We need teachers who are able to ask radical questions about the educational culture and are equipped with the human qualities and skills to change it." (P. Nash, 1973, p. 16).

"The evident shakiness of the doctrine itself--its known limitations, trivializing and dehumanizing tendencies, and unproven validity." (Sandoz, 1974, p. 305).

"The first question that presents itself is the lack of attention to the affective domain. It is not enough to say that all of the performances are pervaded by the affective. And, it is surely not enough to say, "Objectives to develop the affective behaviors-those in the realm of attitudes, beliefs, and relationships--resist precise definition and thereby preclude the precise assessment which competency-based approaches seek." We do not have to be reminded of the research on the electric shocks to subjects which were administered by students who were performing according to the directions they received from their instructors. If we do not concern ourselves with the humanistic aspect of education what kind of teachers will we be preparing?" (Tarr, 1973, p. 9).

"Not only are narrowly prescribed competency based programs inhuman in that they regard people as instruments of production, but they are ineffective in that they are not likely to turn out good instruments of production. There is no empirical data to suggest that teachers prepared in competency based programs are better teachers than those educated in traditional programs." (Palmer, 1974, p. 364).

"If teacher education is reduced to a series of performing functions there is no place for students to ask the really serious questions about education and no place for teacher educators to ask "How do we educate a teacher to become a self-renewing individual?"

The true task of teacher education must be to devise educational methodology in which the mind is set free to question and probe." (Palmer, 1974, p. 361).

"A behavioral statement of course and program objectives will provide students with a better understanding of the program as a whole and the specific expectations held for them. This, in turn, will allow them to choose from a variety of alternatives the courses and steps they wish to take to fulfill the program goals or comptencies." (Shepardson, 1972, p. 168).

"CBE actually offers an uncommon opportunity for truly humanizing the learning process. Very realistic and practical try-them-tomorrow solutions support a philosophy which can achieve the transition for all teacher educators between where we are now and where we want to (and must) be in the area of humanized education." (Dyer, 1974, p. 5).

"CBE can be designed to advantageously break present groups into dyads and singles who can and will choose a method of relating to others based on a more experiential context and hence move the human interaction issue to personal success levels beyond even our current expectations." (Dyer, 1974, p. 5).

"Our program has a heavy human relations emphasis. Our initial experience in the program is focused on human relations training--giving and receiving feedback, team development, self-awareness kinds of things. Those of us who wanted to build on those initial experiences--and most of us did-set up weekly seminars with a faculty member of our choice. The seminars--enabling seminars--were intended to provide us with an opportunity to talk about our problems, share ideas, seek help, explore our values, further develop our interpersonal communication skills, and, in short, to provide a home base in a program that has allowed us to go our own way. We have these enabling seminars throughout the entire program." (Weber, Cooper, 1972, p. 5).

"Indeed, the approach to instructional technology that most researchers are following (based on precise, measurable behavioral terms) is likely to compound what is wrong with American education--its failure to develop sensitive, autonomous, thinking, humane individuals." (Silberman, 1970, p. 196).

PROGRAM PHILOSOPHY
(Also see CBTE Program Elements)

The underlying philosophical basis of competency-based programs needs to be examined in order to more fully understand this approach. Some even question the existence of such a base. The comments which follow reflect these issues and identify the basic tenets of the competency approach.

"One of the important distinguishing characteristics of PBTE is that the student is not given credit for simply having completed an instructional experience; he or she must demonstrate mastery of both content and associated behaviors. Yet programs claiming to be PBTE give this aspect short shrift. Current evaluation techniques tend to be limited, amateurish, or even sometimes omitted. In many instances they do not go beyond simply having the instructor sign off that a student has completed certain experiences. This is no advance over past procedures." (Krathwohl, 1974, p. 40).

"Apparently many of the PBTE critics view PBTE as a totally convergent enterprise. I don't see it that way. My experience with PBTE leads me to believe that programs, as they continue in time and as they adjust to the data they collect, will place more and more value on divergence." (Drummond, 1974, p. 39).

> "Does competency based teacher education have a solid philosophical base?

This question is difficult to answer. There is no one set of values or beliefs about how a teacher should teach or what he should know that characterizes the CBTE movement. Different programs have different beliefs regarding these issues. Advocates of the CBTE movement do insist, however, that program developers must explicate these values and beliefs and make them public. Moreover, developers must develop their programs to be consistent with their stated assumptions, beliefs, and values regarding the nature of man, the purpose of education, and the nature of learning and instruction. Each program must develop its own philosophy."

In addition to the teaching competencies which will reflect the basic philosophical assumptions and values of the program designers, there are other advocated characteristics of CBTE programs that reflect beliefs and values regarding instruction and learning. To the extent that these characteristics imply an instructional philosophy then it may be said that the CBTE movement does have a philosophical base. Some of these characteristics are:

1) precise learning objectives--CBTE operates on the assumption that desired learning is more apt to occur when both the instructors and learners know in advance what is expected of the learner; 2) personalization--CBTE programs are individualized and self-paced; additionally, students can personalize their programs by exercising choice with respect to both competencies to be acquired and the learning activities to achieve the competencies; learning is both increased and enhanced when students receive constant feedback regarding their progress; 3) systems approaches-- a teacher education program is a system designed to produce teachers who can help bring about desired outcomes with children: to accomplish this goal, systems approaches enable decision-makers to gather data in order to correct any discrepancies that might arise between what the program is attempting to accomplish and what is actually occurring; 4) multi-institutional consortia relevance and accountability in teacher education are enhanced when those who are affected in a major way participate in the development and governance of teacher education programs; and 5) field settings--with an emphasis on performance and consequence competencies, much of the program must occur in school classrooms; the assumption is that those competencies that are demonstrated in conditions that are as real as possible are most likely to be internalized and actually used." (Weber, Cooper, Houston, 1973, Issue 10).

"Competency-based teacher education as a movement is anti-intellectual because it ignores the lessons of history and it is attempting to move ahead with no adequate theoretical base. But it does not need to continue this way. The emphasis on field-relatedness, involvement with teachers, and materials development, which characterize so many competency-based programs, is highly desirable. But more programs need to seek out theoretical rationales for what is taught." (Griffiths, 1973, p. 3).

"Too few programs have proceeded with sufficient care to identify competencies which derive from clearly delineated conceptual frameworks about teaching, available research, the demands of specific public school curricula and goals, the experience of the profession, and social science theory." (Rosner, Kay, 1974, p. 294).

"Competency-based teacher education would make more progress if its advocates would stress substance rather than process, if they would insist on competencies having a theoretical rational, and if they would actually relate teacher competencies to student learning." (Griffiths, 1973, p. 3-4).

"Professor Mayher argues that the performance-based approaches to teacher education suffer from severe conceptual impoverishment, which may cause a step backward rather than forward, largely because they have been based almost entirely on classifications of teacher performance. While such classification is necessary, it is not sufficient. Present thinking about performance-based teacher education is far too behavioristic; it does not concern itself with the teacher's intent, or intuitions, or evaluation of what happened. Professor Mayher sums up his position by saying, "Teacher performance is not equal to teacher competency." What is missing in the simplified formula is the teacher's personality, knowledge, intelligence, sense of humor, timing --in fact, all that makes a teacher a sensitive human being functioning with other human beings." (Griffiths, 1973, p. 11).

"CBTE pushes educators to define professional roles more clearly. The logical starting point is to conceptualize the nature of the professional role for which a program is being designed." (Massanari, 1973, p. 244).

"Some authorities have expressed the fear that PBTE has an inadequate philosophic base, pointing out that any performance-based system rests on particular values, and the most important of which are expressed in the competencies chosen and in the design of the learning activities." (Elam, 1971, p. 19).

"What actually is the CBTE potential? The movement has promise, if only in stimulating more analytical thinking and planning for the education of teachers and children; neither can exist in isolation." (Hamilton, 1973, p. 45).

"If it were to offer no more, PBTE would still be a worthwhile educational phenomenon because it encourages the subject matter specialist to consider more carefully such statements as the assertion by Stanley Moses that the traditional approach to education is no longer adequate to deal with the needs of a society where knowledge and skills change so rapidly as to make continuing education neither a luxury nor an indulgence--but a necessity. In addition, changes in the occupational structure, the amount of leisure, and, most important, the level of education of the general populace, all serve to augur a rising demand for education at different periods of life, both for work and more general cultural and leisure purposes." (Shugrue, 1973, p. 10).

"Another highly desirable and almost immediate outcome is that teacher education students are likely to express greater satisfaction with competency-based teacher education programs . . . . Students are more likely to view their professional program as relevant when they are offered opportunities to acquire knowledge and skill with concrete referents to the day-to-day job of teaching." (Rosner, Kay, 1974, p. 292-293).

"In short, competency-based teacher education is the catalyst that can revitalize the teacher education enterprise by inviting and demanding an evaluation of individual and institutional effectiveness at every level." (Rosner, 1973, p. 3).

"Advocates of CBE made these points: 1) CBE does not derive from an accountability model; 2) CBE is not necessarily or solely based on Skinnerian behaviorism; 3) CBTE - as with all professional preparation programs - is eclectic, drawing on any and many useful sources at the same time; 4) CBE programs lend themselves to personalization; 5) colleges of education do not wish to exercise control over academic content; 6) general education and teaching specialties are vital in the preparation of teachers; 7) CBE facilitates scientific inquiry into the teaching act; 8) CBE does not imply a single program model, content, or approach; and 9) the basic criterion for professional phases of the program is relevance to the teaching role." (Houston, Howsam, 1974, p. 301).

"A performance-based teacher education program offers advantages to participants in the program, to persons conducting the program, and to employers of persons who complete the program. To program participants, it provides clarity of objectives and expectations. If there are certain objectives which every participant must master, these are made clear. If there are certain objectives which are optional, these are also made clear. Thus, the participant is aided in making a judgment as to whether he wishes to participate in the program. To the persons operating the program, the performance-based characteristics help in planning experiences to be included in the program, in making decisions regarding student assignments (i.e., whether a given individual should have an opportunity to spend extra time in certain activities, or should be allowed to bypass certain activities), and in evaluating the effectiveness and efficiency of the program in terms of the time and resources required to achieve mastery of the specified objectives. To employers of program participants, performance-based aspects of teacher education enable them to know what competencies program participants can be expected to possess. Thus, making a program performance-based helps participants determine whether it is "good" (in terms of their interests and aspirations), helps program officials determine whether the program is "good" in terms of their program criteria), and helps employing officials determine whether the program is "good" in terms of its attention to competencies which they consider important." (Daniel, 1971a, p. 2).

". . . Need to be constantly reminded that a commitment to teacher preparation programs adequate to deliver competent professional teachers for the schools of this society is both the intent and the issue." (Houston, Howsam, 1974, p. 303).

"The long-range promise, and ultimately the only justification for CBTE, is to improve the quality of instruction in the nation's schools as a consequence of improved teacher education . . . . The long-range impact of CBTE on the nation's schools is not likely to be felt for at least 10 years." (Rosner, Kay, 1974, p. 292).

"Never has there been a greater need for responsible professional attention to the concerns of teacher preparation and of teaching. Performance-based instruction, with its essential elements, enhancers, and enablers, provides an analytic vehicle for such a careful look." (Howsam, 1972, p. 34-40).

"The strengths of the PBTE conceptual model obviously extend far beyond the teacher education program. They are, however, most important for the design and implementation of more effective pre- and inservice teacher education programs in which subject matter specialists work more closely than ever before with those in education, with students, with practicing schoolteachers, and with the community. PBTE can become a major reform movement affecting the subject matter preparation of prospective teachers if academicians take more seriously the participation of students in the design of their own programs, the contributions which academic expertise can make to solving the problems of the schools, the opportunity to design modules which present prospective teachers with skills and knowledge which can be applied in the classroom, the chance to experiment with ways of evaluating students more effectively and motivating them to remain in teacher education programs, and the possibilities of multidisciplinary research and teaching." (Shugrue, 1973, p. 12).

"There is a logic in focusing upon what a teacher does, for what he does is a reflection of what he knows, believes or feels. Since it is a teacher's behavior that is the primary determinant of teacher influence it is important that prospective teachers be able to master the behaviors which lead to student achievement and attitude gains." (Schalock, 1971, p. 3).

"The value of this approach does not only allow teachers easy transfer from state to state , but insures the profession of proper governance of its teachers. It also aids in the attracting, training and retraining of new and different kinds of professional people-- artists, artisans, vocational people, veterans and others into the teaching profession." (Sharpes, 1970, p. 3).

"Broudy feels that proponents view PBTE as the answer. A more reasonable view of PBTE is that it is a process worthy of trail because it reveals in a testable way what educators are doing to students and to themselves. Secondly, he ignores the "tool" aspect of PBTE." (Hersh, Gentry, 1973, p. 6).

"The movement has much to add to instruction, and its use isn't an all-or-nothing matter. University faculty have all the expertise needed to select, to adapt, to evaluate, to innovate, and to discard." (Houston, Howsam, 1974, p. 303).

"Let's not throw the whole approach away, but let's recognize that it has utility, not as a total approach, but in terms of what it is capable of doing. Even if we assume that the psychological frame of reference which it employs and is used as a base is the best one, it is not generally applicable to the totality of what it is we are attempting to do in teacher education. Let us understand the strengths and the limitations." (Openshaw, 1972, p. 11).

It is inferred from Gentry that--"competency-based programs have potential to meet the following weakness common to traditional teacher education programs. . . . Students seldom receive clear specifications of course expectations and requirements. The professor is able to change the specifications as the course progresses. The criteria for student success is ambiguous, and can be subtly manipulated by the professor. Information on class standing and remediation alternatives is not easily or regularly obtainable. The relationship of a courses content is inadequately related to other courses for student." (Gentry, 1972, p. 2).

"CBTE pushes educators to ask the right questions at the right time. The questions are not new questions; they have been the concerns of teacher educators and society for a long time." (Massanari, 1973, p. 244).

"The promise of PBTE is in the fact that PBTE is consistent with democratic principles." (Elam, 1971, p. 15).

"For one thing, it has the precision necessary to the training task and the flexibility needed to preserve the indivduality of the practitioner. In addition, it is thoroughly consistent with the avowed principles upon which our society is based. It is rooted in respect for the individual. It gives a fuller measure of equality of opportunity. It encourages both independent and interdependent behavior--and it is efficient." (Howsam, 1973, pp. 34-40).

"The promise of PBTE is in the fact that it is consistent with what we know about the psychology of learning." (Elam, 1971, p. 15).

"In CBTE, greater emphasis is placed on performance--and consequence --based criteria than on cognitive-based criteria. What teachers know about teaching seems less important than their ability to teach and to bring about change in children." (Houston, 1972, p. 5).

"The promise of PBTE is in the fact that it permits effective integration of theory and practice." (Elam, 1971, p. 15).

"CBTE pushed educators to relate preservice preparation programs more closely to the schools and the profession. . . . Implementation of CBTE strategy pushes educators to relate theory and practice in a systematic way and in doing so to make more effective use of the schools." (Massanari, 1973, p. 246).

"CBTE proponents also see the emphasis on more and earlier student teaching as providing effective integration of theory and practice. . . . Such early exposure can serve as a self-screening mechanism--student teachers may eliminate themselves early in the program, leaving only those highly motivated to teach in such environments." (Hamilton, 1973, p. 21).

"CBTE's emphasis on field-centered instruction could further advance a desirable trend that developed during the past decade when it became apparent that teachers were entering real classrooms not prepared to deal with the critical learning needs of educationally disadvantaged children." (Hamilton, 1973, p. 46).

"I have learned, however, that some kinds of learning occur most favorably outside of the school or community--in an instructor's home, office or even a university classroom--so a balance between work in the schools and more reflective, research- oriented experiences outside of the school seems most desirable." (Wheeler, 1972, p. 3).

"CBTE forces a look at the total process of teacher education. The highly individualized nature of a CBTE program requires systematic planning of both instructional resources and faculty time; data on all phases of activity must be gathered. This could help provide the feedback needed to guide the student teacher's learning experience that has been lacking in traditional teacher education. And certainly in terms of assessing individual student teacher progress, the criteria-referenced nature of the program is superior to traditional, norm-referenced measurement." (Hamilton, 1973, pp. 45-46).

"Competency-based teacher education places emphasis on the learning of interns and children in schools and communities rather than on teaching interns about educational problems in the rarified atmosphere of college classrooms." ((Wheeler, 1972, p. 3).

"The mention of the field as a place to test out specified competencies at expected levels of mastery under specified conditions precludes or at least de-emphasizes the selection and adjustment of teaching behavior according to the needs of the field situation and the students in that situation." (Hungerman, 1973, p. 5).

"CBTE pushes educators to develop and use new kinds of training materials. . . . An instructional program which supports the achievement of specific individual objectives requires new training materials. These training materials will draw heavily on the resources of educational technology and the schools. CBTE strategy further pushes educators to field test and to validate the training materials." (Massanari, 1973, pp. 246,247).

"CBTE pushes educators to develop and use new kinds of management systems. . . . A related characteristic is periodic review and modification of the management system based on experience." (Massanari, 1973, p. 247).

"PBTE offers us the opportunity to expose that which is fallacious, as well as that which has merit. As a systematic approach to teacher education, PBTE offers us a means of professional accountability. Contrary to most other attempts in education, after a fair trial, there will be impirical as well as logical evidence of failure or success." (Hersh, Gentry, 1973, p. 6).

"The promise of the PBTE is in the fact that it increases efficiency through systematic use of feedback, motivating and guiding learning efforts of prospective teachers." (Elam, 1971, p. 14).

"Proponents of CBTE, on the other hand, point to the built-in capacity of CBTE to adjust away from errors and excesses. They believe that emphasis on goals and objectives and the use of feedback on results guarantee openness and adaptability. They tend to find opponents putting up straw men and arguing from insufficiently examined notions." (Houston, Howsam, 1974, p. 303).

"Modular material that is largely self-instructional is likely to attract into teaching only those students who are efficient and well-organized, and sufficiently self-controlled to pace themselves through large chunks of material. While some would argue that this is desirable and will give us better teachers, we don't know whether that is the case. Further, modularization provides a self-screeding to entrance into teacher education that we have not had heretofore." (Elam, 1971, p. 20).

"CBTE could also incorporate and unify fragmented innovations, e.g., micro-teaching, computerized instruction. In fact, CBTE is seen as a prime user of the new technology. . . . This could greatly expand existing knowledge concerning effective applications of technology to the educational process." (Hamilton, 1973, p. 46).

"It is not enough to be convinced that in the end proponents of PBTE will either admit that frogs can't fly or redefine "fly" as the thing frogs do. In the interim, values important to the acquisition of knowledge itself may be trampled, and resources that could be put to much better use (material and mental) in teacher training programs and elsewhere may be shamefully wasted." (Maxwell, 1974, p. 311).

"The promise of PBTE is in the fact that a large share of the responsibility for learning is shifted from teacher to student." (Elam, 1971, p. 14).

"CBTE pushes educators to provide instruction and learning experiences which facilitate the achievement of the desired objectives." (Massanari, 1973, p. 246).

"The promise of PBTE is in the fact that prospective teachers are taught in the way they are expected to teach." (Elam, 1971, p. 14).

"A teacher education program should have as its base or foundation detailed descriptions of the behaviors or competencies essential to effective training, and preservice and inservice teachers should be guided toward acquiring mastery of them. Program characteristics would therefore, be: performance based, mastery criteria, open admission and exit behaviors." (Johnson, 1972, p. 2).

"A teacher education program should provide for the development of the personal qualities of the individual learner: it should provide opportunities for him to establish his self identity, and help him pursue his personal objectives. Program characteristics are humanization, personalization, and negotiation." (Johnson, 1972, p. 2).

"A teacher education program should provide for differences among teachers both preservice and inservice in the accumulation of experience, extent of achievement, and rate and style of learning. Program characteristics are individualized instruction, team teaching, modularization of content, and learning centers." (Johnson, 1972, p. 2).

"A teacher education program should be developed and managed by modern systems technology. Progam characteriestics are systems analysis, program planning and budgeting systems, differentiated staff, program evaluation and review techniques, and scheduling technology." (Johnson, 1972, p. 2).

"A teacher education program should prepare teachers to assume contractual responsibility for the progress of each learner under his guidance toward specified objectives. Program characteristics would be accountability." (Johnson, 1972, p. 3).

"A teacher education program should be so organized that it provides for the continuous evaluation, feedback and revision of all its component parts. Program characteristics are regenerative model, program evaluation, review and revision." (Johnson, 1972, p. 3).

"A teacher education program should recognize the changing nature of society and its values and provide for these changes through frequent up-dating and revision of its content and organization. Program characteristics would be relevance." (Johnson, 1972, p. 2).

"A teacher education program should provide for the continuous growth and development of the teacher both preservice and inservice from the earliest entry point into the program through the highest level of specialization. Program characteristics are program continuity, career sequence, reciprocal provisions for transfer." (Johnson, 1972, p. 3).

"A teacher education program should be so organized and managed that all persons concerned with the education of teacher or affected by it share the responsibility for it. Program characteristics are community-based education, multi-institutional responsibility, and competency based certification." (Johnson, 1972, p. 3).

"A teacher education program should include in its base or foundation detailed descriptions of the behaviors or competencies essential for the teacher to meet his obligations to society and to assure him his freedom as a citizen. Program characteristics would be competency based liberal education." (Johnson, 1972, p. 3).

"We are offered a proposal telling us how to facilitate learning but almost nothing about what is worth teaching. On the other hand, if we consider CBTE from the standpoint of a learning theory, it is defective in that it does not offer a "consistent and coherent body of explanations." (Tarr, 1973, p. 5).

"Traditionally, teacher education programs have mandated entrance requirements which call for something like two tenths of a quality point above the "c" average and possibly a statement and recommendation relative to the applicants moral character. I have never seen any research studies which would indicate that these two tenths of a quality point made the difference between an effective and an ineffective teacher. Certainly one must wonder in 1973 if an institution, especially a public institution, has the prerogative to judge moral character. Be that as it may, the dropping of all entrance requirements suggests the possibility of getting students from more diverse backgrounds--students who will be judged on the basis of what they can do at the completion, not what they have done prior to admission to the program." (Cook, 1973, pp. 7-8).

"An approach such as this requires a sharp break with the view that the inherent logic and integrity of courses in education should not be violated and that the student will profit mainly from systematically studying their content. This view relies heavily on transfer of learning, for it depends on the application of what is read or heard to the different real situation with which the teacher must deal. The focus of a teacher's theoretical study in a situational approach is not the content of a course but the situations he will meet and the tasks he will perform." (B. O. Smith, 1968, p. 41).

"In short, more attention is paid to performing and causing change in others than in developing a sound knowledge base from which to operate." (Tarr, 1973, p. 10).

"Whatever theoretical stance one may take in respect to a given position on learning, the time has come for investigators to stop inquiring whether one mode of presentation is as good as another. For teacher educators such conclusions have far reaching significance. Competency-based teacher education makes use of such knowledge by allowing the individual to use the particular learning style that is coincident to his needs. Those concerned with the training of teachers cannot continue to lecture preservice teachers on discovery learning and individualization of instruction. If transfer from the preservice experience to the classroom is ever going to take place, it is imperative that the program allow for individual differences." (Kaufman, pp. 8-9).

"Now we arrive at the central question of this paper, why CBTE? If we cannot demonstrate that we are producing a better teacher through competency-based programs, is it worth the hassel to establish one? I think the answer to that is yes, but not yes for everyone and every institution. We can say yes to CBTE because of the power of compelling logic . It makes sense to have clearly stated role-derived objectives, to develop a field centered approach, to individualize and personalize instruction, to systematically develop and evaluate a program, to prespecify performance mastery levels and modes of assessment, and to permit a student to progress at his own rate. CBTE would appear to me to be a logical, rational, and systematic way of producing effective teachers."

Until CBTE has proven itself superior to "traditional" approaches to teacher education, however, I would caution you against a wholesale conversion to CBTE, and indeed, encourage you to develop and operate a CBTE program only on an experimental basis.

I believe that CBTE, given effective leadership and financial support, has a real potential to revolutionize not only teacher education, but all levels of education. It is important, however, that we do not neutralize the movement through the adoption of "watered-down" versions of CBTE programs in order to scamper on the band wagon. We must give existing and germinating CBTE programs the opportunity and time to grow and develop so that proponents and critics alike can adequately judge them. Given this opportunity to grow, I think competency-based teacher education will prove itself not simply another passing innovation, but the wave of the future." (Cook, 1973, p. 14).

"First, we are impressed by the effort to unlock the curriculum by substituting, for the traditional course framework, module structures and variable pacing which permitted flexibility in designing individualized programs. Second, we find great value in the intention to teach prospective teachers as they themselves would be expected to teach. Third, we see in the systems approach, in the sophisticated employment of computers, and in the use of simulations, powerful tools; these tools would make feasible truly individualized programs and both formative and summative evaluation. Fourth, the value of behavioral objectives in focusing attention upon observable teacher behaviors is demonstrated in the models. Fifth, the attempt to build coalitions among teacher training institutions, the public schools, research organizations, industry, and the community takes cognizance of the need for more broadly based participation in the training of teachers. Sixth, the models take a dynamic approach by focusing upon the processes of innovation and change." (Shaftel, 1969, p. 8-9).

"In times of rapid social change--and certainly ours is such a time--educators have a continuing obligation to examine and re-examine their goals and define them with as much clarity and precision as possible. They must ask themselves how the experiences of their students relate to the objectives the schools are supposed to help the students achieve. This the PBTE movement seeks to do." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 2).

"Motivated toward the improvement of schools, convinced that PBTE faces serious problems but offers substantial promise, striving for objectivity--such is the stance from which the AACTE Committee speaks at this juncture." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 2).

"Performance-based instruction, so defined, is a powerful model, minimizing waste in the learning process by clearly defining goals and by the continuous use of feedback. It is limited in that it can be applied with full rigor only where the objectives sought can be defined in advance in terms which allow the degree of attainment to be verified. This requirement makes it difficult (but not inherently impossible) to apply the process where the outcomes sought are complex and subtle and particularly where they are of an affective nature." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 8).

"The obligation is to strive for clarity, rigor, explicit definition. But if the teacher educator is convinced that something belongs in the program even though he cannot measure it, he should feel perfectly free to include it but recognize that that aspect of his program is not performance-based. It may simply be conviction-based." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 10).

"The unique strength of PBTE is that it challenges all who touch it to be open about their intentions and explicit about how they will decide if their hopes are fulfilled. Ends must be made explicit; means must stand the test of relevance. The logic of the performance-based approach places a healthy stress on the use of evidence to test one's ideas and assumptions. In these considerations lie what the Committee believes to be its great potentialities. At the same time, the Committee recognizes that, while sound in theory, PBTE may prove so difficult in practice that its accomplishments fall far short of its promise. Its major shortcomings to date are seen to be superficiality and fragmentation resulting from attempting too much with limited resources, adopting too eclectic an approach and making too narrow an interpretation of PBTE." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 29).

"One of the more hopeful aspects of the PBTE movement is that it may focus attention on a search for evidence as a substitute for the petty power struggles which are inevitable in the absence of a firm knowledge base undergirding professional practice." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 27).

"Committee members differ sharply with one another on many specific issues with respect to PBTE. But, by and large, they believe that the logic of the performance-based approach as they understand it holds considerable promise as one approach to reform or improvement in teacher education, not the only approach, but a promising one. They see the achievement of its promise threatened by certain misunderstandings, confusion, problems, actions, and lack of action, hence, their recommendations to help the movement achieve its potential." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 2).

"The cultivation of competency-based approaches to education is one of the most influential and important developments in this progressive effort to advance the process of schooling.

Of all the areas presently being explored to ensure an increased quality of instruction, competency-based education and performance-based certification have, perhaps, the greatest promise for effectively and finally meshing theory and reality into an integral, operational program design." (W. Smith, 1973, p. vi).

"If physical educators accept the argument that schools are accountable for students' learning then the CBE concept will make sense. What better way to begin this thrust, and the most logical starting point, than in professional preparation." ((Freischlag, 1974, p. 30).

"A second advantage of CBE is that the a priori test of what competencies a student possesses upon entering a program will prevent the waste of going through class sessions to repeat tasks already mastered." (Freischlag, 1974, p. 29).

"CBE is rapidly becoming the most significant lever for educational reform since Sputnik, and there is great need for widespread and direct communication about its nature and potential." (Schmieder, 1973, p. viii).

"It tries to train learning strategists and skilled communicators. It tries to develop professionals capable of passing on to students the knowledge they need and of exciting them about learning. While the suggested training program will not develop the knowledge of the disciplines and attitudes necessary for teaching, it will show the teacher how to channel these and bring about effective learning in students." (Ryan, 1968, p. 6).

". . . the Commonwealth Study was performance-based. In the Study report, which was published in 1929, Charters identified the 1,001 activities which teachers must learn how to perform if they were going to be effective in the classroom. We have the same thing coming up now in 1973, and I fear we are back where we were almost 50 years ago. Apparently, we keep on rediscovering ideas rather than building on them. That applies to behavioral objectives and performance-based objectives." (Tyler, 1973, p. 43).

SOCIAL FACTORS

The relationship between education, the school, and society has been considered within the context of the competency movement. The potential impact of the competency approach, either positive or negative, on issues such as social reform and the role of the individual (particularly the teacher) in society, has been discussed in the literature and described here.

"In so far as it has helped students gain the assurance that they can function in an instructional setting because they have mastered a variety of teaching skills, its effect has been benign. But when it has underplayed or ignored the personal, educational, and social reform desires of its training constituency, it has done nothing more than perpetuate the status quo." (Nash, Agne, 1971, p. 156).

"Students and teacher educators confronted with day-to-day school realities will be compelled to attend more strictly to the development of instructional skills. This is not to depreciate the importance of understanding the relationship between school and society, but rather to redress the current imbalance." (Rosner, 1973, p. 6).

"We maintain that at least two kinds of understandings are necessary if ever we are to use our competency models realistically and humanely. First, we must reacquaint ourselves with the new idealism that our students are bringing to teacher education. Generally, they are rejecting business, scientific, and technological career preparation in favor of teaching because they desire a lifetime of human service in a profession potentially capable of effecting widespread personal and social reform. And second, we must understand the alarming nature of the student charge that a professional training exclusively rooted in competency techniques subverts larger reform notions by reinforcing three kinds of status quo: personal, educational, and social." (Nash, Agne, 1971, p. 149).

"Sizer claims that all too few teachers have either an attitude favorble to change or the knowledge to carry it off; the profession, he claims, is technically incompetent . . . . If the expectation is to obtain a higher level of creativity through enrollment of a more imaginative generation of student teachers, one must consider the fact that many of these students--infused with more socially activistic orientations than their predecessors-may not opt for CBTE." (Hamilton, 1973, p. 49).

"Most of us want our students to become reconstructive agents for personal and social change (reasons that may have attracted us to teacher education), but our competency compulsiveness fails to convey this to them. Instead of preparing them to operationalize their desires to create open classrooms, stimulate reform dialogue and activity within the school community, and comprehend the harshest political realities of the larger socioeducational setting, we are exclusively stressing the necessity for component skill development along acceptable professional norms. The disastrous consequence of this is that our students perceive our efforts to prepare them to be learning specialists as nothing more than a systematic attempt to fit them into a lifetime of quiescent professional conformity." (Nash, Agne, 1971, p. 148).

"Will any program that merely prepares candidates to take their places in conventional classrooms as skilled technicians provide the necessary impetus for reform? Or will it only serve to perpetuate the static society?" (Instruction, 1973, p. 18).

"Many of our students are skeptical about the competency model . . . . because it serves to buttress . . . status quo: . . . . A professional curriculum that stresses the virtues of accountability and professionalism and emphasizes the acquisition of skills as the exclusive professional objective of teachers is incapable of responding to many young people's desire to improve society." (Nash, Agne, 1971, p. 154).

"CBTE pushes educators to keep training programs abreast with the state of the art and responsive to societal needs through a systematic change strategy." (Massanari, 1973, p. 247).

"Many of our students are skeptical about the competency model . . . because it serves to buttress . . . status quo: . . . . A professional curriculum that is content merely to prepare students to take their places as skilled professionals in the conventional public school classroom is serving to perpetuate an educational status quo tragically in need of renewal." (Nash, Agne, 1971, p. 152).

"What many students are beginning to understand, however, is that much of the competency-motivated talk about professionalism has been induced not because of a commitment to personal and social reform through service but because of the internal pressures for personal and political conformity. Simply stated, our demands for professional conduct have become demands for a conservative politics and life-style." (Nash, Agne, 1971, p. 154).

". . . we are racing slavishly to adopt a model for teacher education which is so out of touch with the contemporary zeitgeist that it has become but another unquestioned fetish in the arsenal of pedagogical ammunition. In an overzealous born out of frustration and defensiveness we are adopting a model which promises to bestow a magical kind of scientific-technological warrant on our professional endeavors." (R. Nash, 1970, p. 240).

"They (students) demand a professional training which confronts the reality of values, attitudes, and social crises, as well as training which provides them with the basic skills they will need in the classroom." (R. Nash, 1970, p. 242).

"Many of our students are skeptical about the competency model . . . because it serves to buttress the status quo: A professional curriculum that emphasizes professional skills only and is oblivious to the feelings, values, and attitudes of the trainee serves to underscore the larger society's devaluation of the person in favor of the functionary-expert." (Nash, Agne, 1971, p. 150).

"Is this concept PBTE modeled after a technological-industrial philosophy of the structure of society? If so, it may lead to alienation of the students as industry has of its people. (Colleges and Universities)." (Final Report AACTE, 1973, p. 8).

"Does a competency-based program that is entirely statistically oriented produce a philosophy of education that focuses exclusively on established values of a materialistic, technologically-dominated world?" (Instruction, 1973, p. 18).

"A competency-based program runs the danger of subtly inculcating a philosophy of education that accentuates the established educational values of a technocratic age. This philosophy is in direct contradiction to a student's expressed desires for educational reform. A program that stresses performance criteria, measurable outcomes, specifically planned objectives, a systems-analysis approach, and pre-and postassessment techniques risks including in its curriculum only those learnings that are capable of being objectively measured. Consequently, other types of learning that defy precise assessment will be underplayed or ignored." (Nash, Agne, 1971, p. 152).

"Howell raises questions about CBTE in relation to ethnic minorities: are the competencies defined in CBTE programs free from discriminatory provisions?" (Hamilton, 1973, p. 26).

"The tragedy itself was fourfold: that educational questions were subordinated to business considerations; that administrators were produced who were not, in any true sense, educators; that a scientific label was put on some very unscientific and dubious methods and practices; and that an anti-intellectual climate, already prevalent, was strengthened. As the business-industrial values and procedures spread into the thinking and acting of educators, countless educational decisions were made on economic or non-educational grounds. . . . The whole development produced men who did not understand education or scholarship. Thus they could and did approach education in a businesslike, mechanical, organizational way." (Callahan, 1962, pp. 246-247).

"The writings on CBTE current at this time seem to suggest that there is a teaching theory which is either being explicated or a "fruitful hypothesis" formulated. If we take theory in its traditional sense, surely one can find little or nothing that has been written about the good life. There is nothing that resembles The Republic, Emile or even Walden II. In short, the proposals developed so far do not present us with the large canvas that purports to describe or prescribe for American education." (Tarr, 1973, pp. 4,5).

"Carefully designed, predetermined goals crouched in behavioral terms, implemented through narrowly prescribed modules of instruction, and evaluated by explicit assessment criteria suggest that man cannot be trusted to rely on his own devices . . . Education which forces the individual to conform to predetermined ends in order to find a place as a producer in the economic system is education compatable with the philosophy of a totalitarian state. It is the training of a slave rather than the education of a free man." (Palmer, 1974, p. 365).

"All too often teacher education has prepared teachers for schools as they are rather than for education as it might be. Competency based teacher education can easily serve to perpetuate the status quo by preparing cannon fodder for the educational establishment. As technical skills are emphasized at the expense of feeling and valuing, the personhood of the prospective teacher is devalued in favor of the functionary expertise of the technician." (Palmer, 1974, pp. 360, 361).

POLITICAL ISSUES
(College, Faculty)

A number of issues relate to the impact of the competency approach on the organization of teacher education institutions, the academic freedom of faculty, and new roles for college faculty. Several of these issues reflect the usual problems inherent in a change process, while others are unique to CBTE.

> "Do competency based teacher education programs impinge on the academic freedom of faculty members?

All programs tend to limit academic freedom for decisions regarding program content are group and not individual decisions. CBTE programs--because they emphasize collaboration and systems approaches to design--may do so to a greater extent than is usually the case. If a teacher education program is viewed as a system designed to train teachers who possess certain competencies, then the various parts and components of the system must work together in harmony in order to achieve the goals of the program. If each faculty member is allowed to "do his own thing" without consideration of the program's goals and objectives, the program will not produce teachers who do in fact possess the desired competencies. For the program to function effectively, faculty members must be willing to work within a team structure and be governed by the program's objectives.

Academic freedom in CBTE program cannot mean a license to satisfy personal whims and desires. Instead, it is the right to exercise his expertise to design learning experiences and materials in order to help students achieve particular competencies. Each faculty member does participate in the design of the program's curriculum, but once this design is agreed upon he must abide by its overall plan. With regard to the faculty member, Burke (1972, page 38) states that he participates in the decision-making process that plans and constructs the curriculum, but this is not seen as an opportunity for personal power. Rather, it is a team activity, orchestrated around conceptual themes and responsive to societal and student needs. In so doing, he models another essential behavior for teachers; he is collegial and collabrative in the interests of goal attainment."

Burke, J. Bruce. "Curriculum Design." COMPETENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972. Chapter 3, p. 34-55. (Weber, Cooper, Houston, 1973, Issue 38).

"There are political aspects to the question of how far the professor's academic freedom and the student's right to choose what he wishes to learn extend in PBTE." (Elam, 1971, p. 20).

"What faculty roles are implied by competency based teacher education programs?

Faculty members who explore the concept of competency based teacher education generally spend a great deal of time reflecting on issues relating to their role in a CBTE program. And, they find that a CBTE program expects them to play a role which is different from the one to which they are accustomed and, perhaps, for which they are prepared. Burke (1972, page 49) makes this point quite well: "Faculty will need to operate under different rules and to perform different roles when the shift is made to a modular format that permits self-pacing, individualized instruction, and student contracts for special learning projects." Wiersma and Dickson (1973, page 115) state: "Instruction in teacher education programs will shift from general information transmission to instructional guidance, demonstration, and modeling." And Jones (1972, pages 116-117) asserts: "Yet another role is that of the counselor. Personalized programs require close contact between students and faculty, but presently few faculty members actually are qualified or effective as counselors."

"As one looks at CBTE programs, several aspects of the role of faculty seem most prominent: 1) the faculty member must be accessible to his students to a greater degree than has usually been the case; 2) the faculty member must be prepared to guide the student, not lead him; and 3) the faculty member must be willing, fully participating member of various types of program teams."

Burke, J. Bruce. "Curriculum Design," COMPETENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972. Chapter 3, p. 34-55.

Wiersma, William, Jr., and George E. Dickson. "Changing Teacher Education Faculty Roles," COMPTENCY-BASED TEACHER EDUCATION: PROBLEMS AND PROSPECTS FOR THE DECADES AHEAD. Edited by M. Vere DeVault, Dan W. Andersen, and George E. Dickson. Berkeley: McCutchan Publishing Corporation, 1973. Chapter 10, pp. 111-123.

Jones, Howard L. "Implementation of Programs," COMPTENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS, Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972. Chapter 6, pages 102-141. (Weber, Cooper, Houston, 1973, Issue 36).

"Clinical Professorship: A new role is clearly necessary in C/PBTE, but we should not be naive about how much public school supervision and how much academic scholarly activity one person can do simultaneously, nor about adding to the tasks of the already burdened school supervising teachers." (Hungerman, 1973, p. 5).

"CBTE pushes those who provide instruction to facilitate learning rather than merely dispense information . . . . Implementing CBTE forces a role reconceptualization in a preparation program. The instructor becomes a facilitator, one who assists learners to achieve objectives." (Massanari, 1973, p. 246).

"Lack of personal development component, or one which lacks definition and proper emphasis. On the other hand, at times a counselor role is added to the instructor role, to the extent that it becomes an undesirable, perhaps even impossible overload for the faculty member." (Hungerman, 1973, p. 4-5).

". . . each teacher be much more explicit about what he intends doing in his course. He will need to describe it in writing, and he will need to find ways of conferring with students about his work, both the students who have already been working with him and those who are trying to decide whether to or not." (Shugrue, 1971, p. 79).

"The competency-based approach allows faculty members to escape from the mire of grading, attendance keeping, and other numbing clerical routines, freeing them for more creative roles. One example of such roles is found in faculty collaboration with materials production specialists in the design of educational materials utilizing the new technology." (Weber, 1970).

"A strange paradox of freedom and manipulation seems to exist for students and for faculty. The freedom of one seems to exist in inverse relation to that of the other. When pressed, many of the faculty insist there are no minimum requirements; yet demonstrated competency is the sine qua non of C/PBTE." (Hungerman, 1973, p. 5).

"In traditional programs, many faculty hours are spent in lecture situation. Consequently, the faculty member often stands remote from the student. In a conscious attempt to overcome this, the modular approach emphasizes small group work, seminars, and counseling. These experiences provide far greater opportunities for closer faculty-student relationships. Better faculty-student rapport increases possibilities for personalization of the student's experience. Furthermore, competency-based teacher education prompts more efficient utilization of staff. Differentiated staffing patterns in higher education allow personnel from a wide range of sources to bring into harmonious balance their various teacher-educator roles and their individual interests and expertise." (Weber, 1970).

"Interpretation of individualized instruction as an endless series of units, modules, by whatever name, is a poor example for the student to follow in his future teaching role. The premature abandonment of courses, characteristic of some less skillfully implemented C/PBTE programs, resulted in alternate approaches which are inordinately time consuming, inefficient use of a professor's time. The one-to-one tutorial mode is impossible given our present enrollments and budgets." (Hungerman, 1973, p. 5).

> "What are typical faculty and administrator reactions to competency based teacher education?

Karl Massanari has described eight stances taken by teacher education institutions toward CBE: 1) Against it. CBE does not make sense, does not have a sound philosophical base, and will not work. 2) Not interested. It may be alright for others but CBE does not fit our situation. 3) Wait and see. Others are trying it; we will wait to see how well they do, and perhaps join the movement later. 4) Jumping on the bandwagon. CBE is new so it must be good; we want to be in the forefront of any new movement. 5) Studying it seriously. CBTE sounds good in principle. We have appointed a committee to investigate CBTE and will implement based on their conclusions. 6) Let's pilot. It sounds good, and we have initiated a pilot project to test procedures, objectives, and resources. 7) Operate parallel programs. We are convinced CBTE is a valid alternative, and are implementing it along with other preparation programs. 8) Only way to go. Our only preparation program is CBTE. It is the most effective way to train teachers and to deny some of our students access to it is to do disservice to them.

Faculty engage in different roles in CBTE than in conventional programs: they interact more with individual students, lecture less, spend more time in schools, react to video-taped lessons in feedback, and spend much more time in program development. Because CBTE pressures faculty to design a program and not a series of courses, faculty spend more time in team meetings and they come to know each other better. They spend more time and will tell you CBTE is hard work, but they usually would not want to return to the old way of teaching." (Weber, Cooper, Houston, 1973, Issue 37).

"What are the problems competency based teacher education program designers face with regard to institutional policies and procedures?

Implementation of a CBTE program generates many problems; not the least of these are the problems which are created when competency based instructional systems are a vairance with administrative policies and procedures which are geared for traditional instructional systems. Jones (1972, page 135) writes: "Personalized programs cause student concern about a number of administrative details. For example: What is a course in a personalized program? When does registration take place? When and where are fees and tuition paid? How is student progress monitored? How are credits transferred to other universities?" To these questions one can add: How are students graded with a system which is criterion-referenced? How are grade-point averages computed? What constitutes a full load?

Different programs are finding different solutions to these problems. Jones (1972) offers a number of useful examples; these show that solutions can be found. Experience suggests that involving administrators in the design and development of the program is wise inasmuch as many of the decisions which can smooth the way are administrative in nature. Burke (1972, page 48) claims: "Early involvement of administrators is one key to effective handling of institutional resistance to development of a competency-based curriculum. The administrators would be involved long before implementation. Problems still will arise, mostly with individuals who cannot tolerate any change without appropriate static. However, many unexpected supporters are likely to appear if the change makes sense. Once they understand its objectives many administrators will become the strongest boosters of competency-based education." With commitment come creative solutions."

Burke, J. Bruce. "Curriculum Design," COMPETENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972, Chapter 6, pages 102-141. (Weber, Cooper, Houston, 1973, Issue 30).

Jones, Howard L. "Implementation of Programs," COMPETENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972, Chapter 6, pages 102-141. (Weber, Cooper, Houston, 1973, Issue 30).

Ricker, Kenneth, S., and Michael L. Hawkins. Testing a Science Education Proficiency Module with College Students." University of Georgia GEM Bulletin 69-12. Athens: University of Georgia, 1970.

Sybouts, Ward. "Performance-Based Teacher Education: Does it make a Difference?" PHI DELTA KAPPAN, 54:5:303-304, January, 1973.

Weber, Wilford A. THE COMPETENCY-BASED TEACHER EDUCATION DEVELOPMENT PROJECTS. United States Office of Education, National Center for Educational Research and Development, Project Number 0-0744. Syracuse, New York: Syracuse University, 1971. (Weber, Cooper, Houston, 1973, Issue 40).

> "What type of teacher education students benefit most from competency based instruction?"

"Questions of how information regarding a prospective teacher's competency shall be communicated to certification or licensing authorities, as well as questions regarding allocation of student and faculty credits to degree requirements and work-load definitions, are concerns which have been inadequately addressed." (Rosner, Kay, 1974, p. 295).

"Competency-based teacher certification will come about with the full blessing of teacher educators and their allies in the organized profession as research establishing the relationship between teacher behavior and effective school operation undergirds the teacher training program. In the processes of conducting performance-based, field-centered training programs, teacher education will become identified nationally with the mission of school reform and with the career opportunities of poor people, and it will inevitably become politically viable." (Rosner, 1973, p. 6).

"Performance criteria appear to have utility both in determining who should enter a teacher preparation program and who should finish it. Hopefully, they will ultimately be useful in helping recruit students with exceptional potential for teaching. The mere adoption of a PBTE program will eliminate some prospective students because they do not find it appealing. The question remains: Will these by the students who should be eliminated?" (Elam, 1971, p. 20).

"Faculty members responsible for the subject matter fields, which account for some 80 percent of the teacher candidate's undergraduate work, are recognizing too that PBTE has the potential to revitalize general education, to redefine the teaching major and minor, and to reform graduate education." (Shugrue, 1973, p. 1).

"Another objection to PBTE arises from the long-standing academic distrust of reforms initiated by the educational establishment. Because it has been fostered by professional educators and directed almost exclusively at the professional preparation of teachers, PBTE could be subject to uninformed criticism from the liberal arts and sciences for "anti-intellectualism, low academic standards, and the like." (Shugrue, 1973, p. 5).

"Academic departments have become noticeably more willing to discuss matters once relegated to departments and colleges of education. On many campuses they are already involved in stating objectives, determining competencies, assessing program effectiveness as well as student performance, and justifying instructional and research costs." (Shugrue, 1973, p. 7).

"This early period in the history of PBTE provides subject matter specialists with excellent opportunities to join their colleagues in education and in the schools in raising questions of common concern about the design, conduct, and evaluation of curriculum." (Shugrue, 1973, p. 7).

"Questions about budgeting, faculty responsibilities, curriculum reorganization, scheduling, counseling, and testing suggest the enormous impact that PBTE could have in many colleges and universities if subject matter specialists and administrators joined their colleagues in education in studying alternatives to present practices." (Shugrue, 1973, p. 12).

"The education unit on the campus is being challenged to "bite the bullet." It will have to abandon some of its isolation from the profession and the educational systems of the community. More importantly, it can expect to confront the challenge of fashioning and operating demonstrably effective preparation programs. This can be either a threat or a challenge." (Houston, Howsam, 1974, p. 302).

"Members of the Arts and Science faculties are reported to be generally not involved either in the established CBTE programs or in developing CBTE programs, reflecting the traditional separation of the academicians and the educators. Reminiscent of Dewey, Silberman claims that much of what is wrong with teacher education today stems directly from this separation. (Silberman, 1970, pp. 412-469)" (Hamilton, 1973, p. 21).

"Pressures from politicians and the public for accountability coupled with the financial squeeze in teacher education institutions have caused educators to seek easy answers rather than to confront difficult philosophical issues. In the quest for simple solutions to complex social problems it is understandable than an institutional mindlessness sometimes results." (Palmer, 1974, p. 365).

DECISION MAKING, PARITY

How decisions are made and who is involved in making them are issues which are political in nature, they relate to the power structure and control of teacher education. Parity, or equivalent roles in the decision making process, is a concept which has emerged in the competency approach. Various aspects of this process are considered in the statements found in this section.

> "Who should specify competencies in a competency based teacher education program?

In describing who should be involved in specifying teacher competencies for a teacher education program, one word suffices: everybody. "Everybody" is defined as university faculty, public school administrators and teachers, parent and community representatives, professional organization representatives, state department of education representatives, governmental educational agency representatives, and teacher education students.

All affected personnel should be involved in the conceptualization of the teacher's role and in the specification of the teacher competencies implied by that role.

Various labels have been used to identify such clusterings of persons: parity, protocooperation, consortium, and multi-institutional organization are among them. But by whatever name, the point is clear: the university's responsibilities with regard to teacher education must be shared and teacher educators must be more responsive to a wider range of inputs.

However, it is not implied here that all those involved share the same amount of responsibility. Each group of people needs to participate in the process where they are best qualified. Everyone should not be responsible for the same functions. It seems reasonable to believe that the primary responsibility for educating teachers rests with the university, just as the primary responsibility for educating children rests with the public schools.

In Texas, the consorium responsible for program planning, including specifying the competencies, is the Teacher Education Center. This consortium must include teacher education institutions, schools, and the organized profession. These centers should help broaden the decision-making base in teacher education, thus increasing the program's capability to be responsive to clientand societal needs." (Weber, Cooper, Houston, 1973, Issue 19).

"There should be more student in-put from the beginning and planning stages. (Students)" (Final Report AACTE, 1973, p. 6).

"Parity: cooperative decision making is essential; the degree of authority sharing is less so." (Hungerman, 1973, p. 5).

"CBTE pushes educators to broaden the decision-making base.

A cooperative approach to decision making in teacher education has been supported in educational literature for nearly three decades . . . . Educators will be pushed to a greater extent than ever before to include not only colleges and universities, but also the schools, the organized profession, communities, and students." (Massanari, 1973, p. 247).

"These groups (teacher organizations, parents, minorities, students, legislators, State Boards) have different value perspectives between each other and within their own membership. PBTE is unlikely to have a research base that will resolve many value issues through empirical data. Consequently, value issues will become intensely political, engendering negotiations, bargaining, coalitions, and compromises." (Kirst, 1973, p. 24).

"A humanistic goal is the development of mature men and women who are able to take responsibility for themselves--for their purposes, decisions, actions, and evaluations. If PBTE means that one must be accountable to an external agent, it may militate against the development of this self responsibility. Respect for persons means that each person affected by a decision should have the opportunity to participate in making the decision. A humanistic program of PBTE will therefore, involve widespread student participation in goal setting and evaluating." (P. Nash, 1973, p. 13).

"Since the CBTE approach espouses the involvement of public school teachers in the design of CBTE programs, and since professional associations are strongly urging this involvement, teacher capabilities to perform the required developmental effort must be assessed. Unfortunately, the evidence is not encouraging for the kind of creativity that is essential if CBTE is not to slip into modularized mediocrity." (Hamilton, 1973, p. 48).

"What is the role of public school personnel in a competency-based teacher education program?

Unlike traditional programs, CBTE programs afford school personnel an opportunity to play a very important role. The multi-institutional nature of the CBTE program provides for close relationships between college, school, and profession. Because CBTE programs are field-centered, school personnel must be involved in every aspect of the program. They participate in all phases of program design; the identification and specification of competencies, the setting of criterion levels, and the establishment of assessment procedures are design processes in which it is especially important that school personnel be involved. During program operation, it is crucial to the success of the program to have teachers serve as clinical supervisors as students work with children; teachers are in the best position to provide formative feedback to the CBTE student and to the program. The college, the schools, and the profession must share responsibility for the education of teachers; college and school personnel must be peers in that process." (Weber, Cooper, Houston, 1973, Issue 32).

'Equally significant is CPTE's potential for breaking down the traditional division between the public schools and colleges of teacher education. Broad-based decision making is central to the notion of citizen participation in a democracy; through its consortia approach CBTE fosters a desirable trend in this direction." (Hamilton, 1973, p. 46).

"An unresolved problem, however, is securing the cooperation of public schools for an influx of CBTE student teachers. Some CBTE directors report major problems of resistance from administrators and principals. Classroom teachers must receive training in CBTE methods if they are to function as supervisors of student teachers. When experienced teachers take on new roles as supervising trainers, new problems of training and cost emerge. One program director, in fact, insists that if CBTE is to succeed, incentives for public school supervising teachers must be provided: he calls for training seminars and course work for credit, with tuition fees rebated and released time arranged. School districts appear unable to afford this extra expense, yet professional associations demand it for their members." (Hamilton, 1973, p. 22).

"The consortium arrangement almost inevitably associated with PBTE . . . . causes many management problems. A consortium requires new power and policy alignments and new financial arrangements whose political implications are at least as critical as the professional." (Elam, 1971, p. 20).

"One almost immediate outcome of CBTE is the development of stronger relationships between teacher educators, the public schools, and the organized teaching profession. Few will argue with the desirability of this goal. Surely the particular expertise of each of these groups may complement the other and in the long run result in a more realistic and concerted attack on common educational problems. An added benefit is that each of these groups, in order to work cooperatively with the others, will have to cease the too-familiar buck passing and infighting that has, in the past, presented a fragmented picture of the education profession to outsiders." (Rosner, 1973, p. 92).

"The corrective formula for correcting weaknesses in current teacher education programs and one that should signify the mission of teacher education for the remainder of this decade is power in competence and parity in governance. A performance-based, field-centered teacher education program is the essence of that formula because of the demands such a program will make on teacher education faculties, and because its development will forge a coalition of university, school, and community." (Rosner, 1973, p. 92).

"Do competency based teacher education programs necessitate new institutional relationships?

Schmieder and Holowenzak (1972, page 75) state: "Though the link between consortia and the teacher-performance movement may not be readily apparent, the purpose and the promise of the movement depends very greatly upon new arrangements and relationships among people and institutions." Further, Elam (1971, page 20) contends that "the consortium arrangement almost inevitably associated with PBTE causes many management problems. A consortium requires new power and policy alignments and new financial arrangements whose political implications are at least as critical as the professional."

Most of those who write about CBTE place heavy emphasis on the necessity of collaborative relationships involving community, public school, university, professional organization, and state department of education. There already exists a wide-range of various types of consortia; many are described by Schmieder and Holowenzak (1972) It is important to note that each provides an opportunity for sharing of resources and the responsibilities although they differ greatly as to composition purpose, and level of cooperation. Consortia will continue to take a variety of forms but increasingly teacher education programs will be multi-institutional in nature. Because they stress parity, because they are systems designed--and, consequently, must involve the system of which they are a part, and because they place great emphasis on the demonstration of student competence in school settings, CBTE programs must involve schools, university, profession, community, and state department of education. Each program, however, needs to find a relationship which is efficient and effective within its unique setting."

Schmieder, Allen A., and Stephen Holowenzak. "Consortia," COMPETENCY BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972. Chapter 5, pp. 75-100.

Elam, Stanley. PERFORMANCE-BASED TEACHER EDUCATION: WHAT IS THE STATE OF THE ART? PBTE Series: No. 1. Washington, D. C. : American Association of Colleges for Teacher Education, 1971. (Weber, Cooper, Houston, 1973, Issue 31).

"MULTI-INSTITUTIONAL PATTERNS OF ORGANIZATION: Today we are moving toward the sharing of decision-making responsibilities by all who are directly or indirectly concerned: the college, the students, the public schools, and the community . . . . educational governmental agencies, state departments of education, philanthropic foundations, the information and education industries, teachers' associations and other professional groups."

"We are also told the actual designers of the instructional system are the students and the teachers. To suggest that students can design a program of performances that will prepare them to develop into a competent teacher for the real world of teaching, is to ask for the finished product at the initiation of the program." (Tarr, 1973, p. 7).

ACCOUNTABILITY, CONTROL

Accountability has been linked to the development of competency-based programs in a variety of ways, depending upon how accountability is defined. In some ways the two concepts are compatible since they are based on similar philosophies. Underlying these discussions is the essential issue of control.

"To whom should judgments about a given student's values, personality, interests, and preferences be disseminated? . . . under what circumstances, in what form, with what guidelines, and for how long are only a few of the concerns which should guide dissemination . . . . It is important, however, that every performance-based teacher education approach find answers to these questions, answers which protect the privacy rights of its students yet afford information access to those to whom it is essential." (Airasian, 1973, p. 24).

"The PBTE movement could deteriorate into a power struggle over who controls what. Thus there is a need to specify decision-making roles early to work out political and legal relationships satisfactorily, or to evolve new organizations and institutions where the cleavages will not exist." (Elam, 1971, p. 20).

> "In what way is the comptency based teacher education movement related to the accountability thrust?

Accountability, as applied to education, has generally been taken to mean that the public schools and the professional educators who operate them should be held responsible for educational outcomes--for what children learn. It is reasonable to believe that the CBTE movement is related to this general thrust of accountability. By explicitly stating the competencies the teacher education students are expected to demonstrate and assessing whether or not they have demonstrated these competencies, a teacher education program is being accountable to the public. The program is asserting, in essence, that its graduate has demonstrated certain specified competencies under certain conditions. Moreover, these competencies represent the knowledge and skills that the program designers believe a teacher needs to possess in order to be effective. By publicly stating the competencies expected of its graduates, the program makes itself and its learning processes more accountable to the students, the public, and the profession.

Another accountability issue stems from questions regarding the competencies specified: for what is the teacher education student held accountable and for what is the program accountable? Some teacher educators argue that the teacher cannot be held accountable for consequence competencies unitl such time that the relationship between desired pupil outcomes and teaching behaviors is much better known. These teacher educators argue that if they cannot reliably determine what teaching behaviors facilitate specific pupil outcomes, the teacher trainee cannot be expected to do so. Instead, the teacher trainee should be held accountable for knowledge and performance competencies that the program requires them to demonstrate, but the program must assume responsibility for positing relationships between pupil outcomes and teaching behavior.

Other teacher educators believe that the teacher trainee may be held accountable for the demonstration of knowledge, performance, and consequence competencies, but he should not be held accountable for a consequence that stipulates both teacher behaviors and pupil behaviors--both process and product." (Weber, Cooper, Houston, 1973, Issue 12).

"In the short run, those knowledges, skills, and behaviors deemed necessary for beginning teachers, and the evidence acceptable for assuring that program graduates possess those competencies, will be made both explicit and public. In this sense CBTE offers the immediate promise of accountability." (Rosner, Kay, 1974, p. 293).

"CBTE pushes educators to be accountable for what they do.

CBTE is much more than accountability; the terms are not synonymous. Implementation of CBTE requires program accountability--training evidence to support its claims. Students will be held accountable for demonstration of desired competencies." (Massanari, 1973, p. 247).

"Among CBTE developers, there seems to be a lack of recognition of the possibility that non-school factors may affect student achievement more strongly than any educational efforts. Those in opposition to the CBTE doctrine quickly point out that no one should be held responsible for an outcome unless he knows and is responsible for the factors that shape it." (Hamilton, 1973, p. 29).

"Question Criticism - Competency Based smacks of accountability, therefore, isn't it possible that institutions, and/or individual instructors might be held accountable for the competency of their graduates? Retort - Yes." (Arends, Elmes, Masla, 1972, p. 6)

"The issue of control --who determines the competencies; the state department, the LEA, the professional organizations, the colleges . . . how much of the control will be political? There may be a danger of assessment control via the political process. (Colleges and Universities)" (Final Report AACTE, 1973, p. 7).

"Others feared a power move by colleges of education and public schools to gain control of teacher education, leaving the academic community at their mercy." (Houston, Howsam, 1974, p. 300-301).

"Teacher educators have counseled restraint. They argue, quite rightly, that instructional materials and processes essential to the development of critical teacher competencies are not available and that research has yet to establish firmly the connection between specific teacher behaviors and pupil performance. Further, they are concerned about separating criteria appropriate for general eligibility to seek employment throughout a state from standards used to judge a teacher in a specific job setting." (Rosner, 1973, p. 2).

"The reality which Broudy foresees will be exactly the same as we have it in any totalitarianism: the "authorities" will see to it that our teachers will be in line with the well-defined party line, and the others have to go. . . . Unless you show them what they want to see, you will have to feel their wrath. The "commissar" visiting the schools will have his list of competencies against which he will compare the performance of his "subjects." You do not have to go to Russia to see how teachers handle this situation." (Schieser, 1973, p. 6).

"Whether those advocates like it or not, PBTE smells too much like functionalism and behaviorism, if not totalitarianism." (Schieser, 1973, p. 6).

". . . we ought to enter into this process with our eyes open to the possibility that: 1) in the affective domain, we are destined to lose a great deal if the trend toward PBTE continues, and 2) those who understand quantifying techniques better than do most educators may very well end up controlling our educational system." (Fisher, 1973, p. 5).

"Technocrates will always tend to be tempted by the promise of efficiency and tidiness through rational control over others' behavior and be ready to sacrifice the development of personal responsibility with its unpredictable and varying outcomes. It may be that PBTE as currently conceived contains too many power temptations for technocrats." (P. Nash, 1973, p. 14).

PROFESSIONAL ASSOCIATION

The groups who most certainly should have an interest in the competency movement in terms of its effects on the teaching profession are the teacher organizations. Comments by members representing such organizations are thus of interest. Much of the concern of these groups relates to the area of certification.

"Therefore, as organized teachers with a strong organization, we came to certain conclusions, and those I will share with you now.

> We will cooperate with our universities in the effort to develop performance-based teacher education programs. This summer we recruited over 300 classroom teachers to work with the City University of New York in the beginnings of a project to use the expertise of experienced teachers to work on the development of competency lists which can then be researched.

As I said, if we admit that no teaching strategies have been scientifically proven effective, we can begin to build a model based on whatever research _is_ available and on what classroom teachers _believe_ is valid." (Feldman, 1972, p. 74).

"To establish one prototype of teacher education as the sole route to legal licensure is pure folly, especially in the absense of established evidence through viable research. To base advanced credentialling or renewing certifications on such a singular notion is ever more upsetting. This is not to decry experimentation with performance-based teacher education. Already some developmental approaches to performance-based teacher education appear promising, if not highly successful." (Darland, 1972, p. 66).

"CBTE may indeed be a vehicle whereby teacher organizations will have a greater voice in the training and licensing of its members. One of the immediate goals of the movement is to bring about closer working relationships between the teaching profession and teacher educators, and the organizations may support the movement for that reason. However, that emphasis of CBTE should not make us lose sight of of the research and development objectives, for when the R & D model is lost the impact of CBTE on the public schools is uncertain and the competition between the CBTE approach and other approaches to teacher preparation will reduce to political issues." (Rosner, Kay, 1974, p. 294).

"If the decision makers are looking for "measurable" behavior, it is almost certain that the goals will be in terms of content objectives and shown as "scored" results of information accumulated.

If they are looking for "observable" behavior, it is more likely those who set higher priorities on "process" goals, who will be "watching" the behavior of children and the impact teaching processes have had on how each individual child functions and uses information." (NJEA Review, 1973, p. 19).

"It all boils down to who controls the "observing" and the judging of competence. If it's the industrial-minded test managers, the whole process will be computerized and only judgments that can be converted into numerical ratings or rankings will be used. (NJEA Review, 1973, p. 19).

"Performance criteria, if adequately conceived, could be one approach to teacher education. It has much to offer in developing particular teaching skills under the control of the teaching profession. In the wrong hands, however, it can become a tool to force an industrial don't-rock-the-boat psychology of management by prepackaged objective on the public schools." (NJEA Review, 1973, p. 19).

"More and more, the public feels that anyone can teach; that all you have to do is love children and be able to talk. In part, this, too, is a result of our success, for we have--thanks to the public school system--a literate and educated public, many of whom feel they can do what teachers do. But, in part, this attitude thrives because we have not developed a visible, clearly formulated "technology of teaching" which can be translated into concrete instructional skills and methodologies. We have not coherently assembled the expertise of experienced teachers to demonstrate a concrete, tangible body of knowledge identified as teaching.

The classroom-centered, research-oriented Performance-Based Teacher Education provides a hope of doing that. It offers the possibility of providing teachers with real knowledge about successful classroom strategies and, beyond that, with the concrete skills they need to carry out those strategies.

For this reason, and because of the great need of the profession and of the schools for answers we don't now have, we look favorably on Performance-Based Teacher Education. We oppose, however, a changeover to Performance-Based Certification at this time." (Feldman, 1972, p. 70).

"The danger appears to lie in premature certification of teachers on the basis of demonstrated performance in affective areas for which we have few if any reliable measures." (Hamilton, 1973, p. 50).

"We have no validated research conclusive enough to enable us to say that teachers with X or Y particular skill or trait or competency is going to elicit X or Y learning response.

We should know--we should be working hard to learn these things. We should be working at it in our universities, in performance-based teacher education programs, in the classrooms of our public schools and with the aid and advice of experienced classroom teachers. We should be conducting research on the subject and we should be making a massive commitment of funds to research--for it is probably a key to improved education for children--and for that we support Performance-Based Teacher Education as a hope of getting the research done." (Feldman, 1972, p. 72).

"Actually I believe that performance based teacher education is a promising and viable concept and should be pursued . . . . Until we can measure performance in such a way that we are able to confidently identify minimal levels of performance to practice the profession, we will not have performance-based teacher education." (McKenna, 1973, p. 2, 3).

"The critical issue then becomes this: unless the relationship between teacher behavior and pupil outcomes can be established, there is no sound basis for certifying teachers under the CBTE approach." (Hamilton, 1973, p. 47).

"We understand that a great many things besides specific teacher performance also affect learning, and teachers can be held accountable only for those things over which they have control. State legislatures, and some state education departments, usually do not understand this. They usually understand the assessment of performance as an evaluation of product. Translated, this means the evaluation of teacher performance on the basis of pupil achievement scores, and nothing more. It is an easy and popular notion.

The introduction of performance-based certification requires legislative actions, and we are wary of it in this atmoshpere." (Feldman, 1972, p. 72).

"I don't know about yours, but our State Education Department is busily listing behavioral objectives by the thousands. When we asked whether they were planning to do the research to validate them, they said no--they have no funds for that. The gentleman at our State Education Department who is in charge of all this said "we can't wait" for sophisticated instruments of measurement to be developed, even though he admits candidly that what we have is not very sophisticated. Still, he not only advocates basing certification on assessed performance or competency, he advocates "continuing" certification--not just "continuous career preparation", but continuing certification--on this basis, so that every five years a teacher will either be re-certified or de-certified on the basis of demonstrating "required competency." Tenure will be destroyed--but no one yet knows:

> What the skills to be required are.
> How we will measure them when we figure out what they are.
> Whether the skills we pick actually have an effect on learning." (Feldman, 1972, p. 73).

"First, we welcome the thrust of the Performance-Based Teacher Education movement toward an attempt to develop a coherent body of knowledge about teaching and the effects of specific instructional strategies on the learning process." (Feldman, 1972, p. 69).

"Where work is being done on evaluation related to performance based teacher education, there appears to be over-emphasis on evaluation of didactic teaching styles. One hears the terms "teaching lessons" and "collecting student papers" and other lecture-type activities referred to all too frequently." (McKenna, 1973, p. 6).

"Most of this boils down to a drive to characterize teaching and all of its various intangible aspects in terms of what some think can be measured and controlled. All of this talk about explicitness, objectivity and evidence presumes, despite evidence to the contrary, that teaching can be analyzed scientifically by breaking it down into a multiplicity of definite observable pieces. This drive toward measurement and control should come as no surprise to teachers. We are in the midst, after all, of the era of accountability--a time when terms like competency and performance are flags to signal taxpayers and budget-cutters alike that the school shape-up is on." (Kemble, 1974, pp. 2-3).

"The comptency-behavioral shoe will not stretch to fit all aspects of teaching. Competency advocates will be forced to either make claims for their system which it cannot fulfill and thereby engage in hypocrisy or, they will be forced to give lipservice to affective concerns while concentrating their real energies on the technical aspects of teaching." (Kemble, 1974, p. 3).

"The UFT opposes any attempts to institute performance certification before the completion of validated research." (Kemble, 1974, p. 8).

"The United Federation of Teachers' Committee on Performance Certification has made several important recommendations. . . . Intensive research in teacher behavior and instructional methodology to scientifically and objectively determine the criteria necessary to positively affect learning. Support of the position that research and development in this area should begin with development, that is, with a model put together by what experienced classroom teachers think is valid. Student teachers can then be taught in that image, and the effectiveness of the approach can then be measured in the schools. Opposition to the product notion of teacher performance, to attempts to institute PBTE/C before the completion of validated research, to the concept of continuing certification, and to attempts to relate PBTE/C to merit pay." (Bhaerman, 1974, p. 7).

"And, in New York, the idea of recertification alone--with judgments of teachers based on a changing "logic and tradition"--would be enough to instill teacher fear and conformity. This "logic and tradition" will, after all, mean different things in different districts throughout the state. The meaning of certification will change from the content demanded by universities to the local prejudices of particular school districts. Employment and certification will be linked as never before and school administrators will control both. This drive toward the measurable, when combined with the localist aspects of the proposal recertification, is bound to lead to greater control, less flexibility, and a new form of parochialism." (Kemble, 1974, pp. 5-6).

"When teachers are to be educated, certified, and then recertified on the basis of competencies derived from "the best professional judgment available," or "logic and tradition," questions arise as to who makes these judgments, how often they change, and to what ends?" (Kemble, 1974, p. 5).

"Leaders of the competency-based teacher education movement have come up with an ingenious combination of behavioralism and business theory. Neither is new, and the fact that they have been put together now should serve to remind us that what happens in education is, after all, political. Competency-based teacher education is but one more crest in the wave of fiscally conservative education programs we have been battered by since the late 1960's . . . . Not only is competency-based education a money saving design, but those advocating it are not even willing to cough up investment money to give the effort a fair send-off." (Kemble, 1974, p. 3).

"In this endeavor those pushing competency-based education are not alone. They join the de-schoolers, the geneticists and the alternative education crowd all of whom are putting a lot of energy into arguing that schools make very little difference and that the thing to do is cut back on the wasted money being invested in their irrelevance." (Kemble, 1974, p. 3).

"For if we do not have the evidence, yet we are still asked to stretch our sense of "logic and tradition" to include competencies like the one listed in the Florida catalogue to train and evaluate new teachers, as well as to re-evaluate experienced teachers, then competency-based teacher education is just a hoax. We will simply be coming up with a new form of training and evaluating teachers based on some old, and some new, prejudices with less solid knowledge-based education to back them up." (Kemble, 1974, p. 4).

"And what will all of this do to teacher freedom and creativity in the classroom? To begin with, teachers will be trained via a single behavioral mode. No matter what pains competency advocates take to argue that their definition of competency is broad and all-inclusive the approach does have a theoretical base and it is narrow, rigid and stultifying." (Kemble, 1974, p. 6).

"With competency-based education we have a program to save money, scapegoat teachers and dismantle colleges. These solutions fit the demands of a suspicious political atmoshpere and a conservative economy." (Kemble, 1974, p. 6).

"If we are interested in sincere and solid reform we should look to building a knowledge base for teaching rather than reducing it to a series of isolated "skills, knowledge and attitudes." The public relations hucksterism of competency-based education will hardly take us to Atlantis. It is much more likely to dissipate our energies and prevent us from getting started." (Kemble, 1974, p. 7).

"Performance based teacher education and certification--PBTE/C--Peebtec--is a tremendous force for good. . . as well as for ill. The potentialities in this movement for educational reform are immense. While I have highlighted some of the problems, the caveats, I do not wish to convey the impression that there is little or no value in PBTE/C. There is much value. Many others have written about those aspects; for example, the most obvious value is the research and experimentation which must occur in the name of PBTE/C so that we can begin to learn how--and if--teaching strategies affect learning. To do this we must look at teacher behavior in the context of learning response, as PBTE/C research promises to do." (Bhaerman, 1974, p. 8).

"The position of a LIFT Committee on Performance-Based Certification was presented: a strong case for not linking specific competencies to certification. The feeling is that not enough specific competencies are validated by research; however, there should be a massive commitment to research in this area. It was felt that basing certification upon specified competencies is unwarranted at this time." (American Federation of Teachers, 1972, pp. 32-33).

"If state agencies begin to require the mastery of specific competencies as a prerequisite for certification, two dangers would exist. The first would be that pointed out earlier: non-validated knowledge and skill competencies as well as personal characteristics unrelated to true teaching effectiveness may be required, leading to certification standards perhaps even more non-relevant than those now existing. Second, pressure groups may be able to legislate requirements that attempt to define teachers and teacher behavior into unacceptable patterns. A candidate could be required to fit the mold or not be certificated. Only alert and active teacher involvement can prevent the certification process from becoming "Big Brother's" test for the "perfect teacher." (American Federation of Teachers, 1972, p. 32).

"As with other potentially powerful and constructive ideas, this one seems to depend to a large extent on what is done with it and toward which ends the power is directed. Fine, if it is directed toward improving perennially weak teacher-training programs, especially in-service ones. But if it is used as another weapon in the growing arsenal against teachers, we--all of us--may be in for a hard time." (Bhaerman, 1974, p. 1).

"I want to say at the outset that we do not oppose Performance-Based Teacher Education. The concept is a welcome one. . . . I will tell you second about our strong reservations, our opposition to performance-based Certification--" (Feldman, 1972, p. 69).

EMPIRICAL ISSUES

(Research, Competencies)

Competencies have been the subject of considerable discussion on the basis of their ostensible restrictive nature, as illustrated in a previous section. Another area of much concern is the validity of these competencies. The relationship between teaching competencies and pupil outcomes can only be established through research. This lack of a research base for teaching competencies has become a major area of debate surrounding the competency movement.

"The short-range (up to four years) promise of CBTE is that there will be widespread professional recognition of the hypothetical, tentative nature of various teacher education curriculum elements, professional consensus on the need to validate such elements (and the curriculum as a whole) against criteria of school operations, and a commitment to tool up for the necessary development and research. These professional recognitions and commitments should result in more extensive support of teacher behavior research and the generation of interdependence between teacher behavior research and teacher education program development and implementation." (Rosner, Kay, 1974, p. 292).

"The intermediate promise of CBTE is that teacher education institutions will have the demonstrable capability of preparing knowledgeable and skillfull teachers in curricula whose component parts have been tested for validity against criteria of school effectiveness. It will take between five and ten years to accomplish the first phase of such curriculum validation research, and will depend on whether or not criteria of school effectiveness can be identified and on whether or not teacher education programs would be willing to subject the elements of their curricula to empirical test." (Rosner, Kay, 1974, p. 292).

"CBTE pushes educators to conduct research and provides direction for research activity. Like other teacher education programs, CBTE is based on a number of untested assumptions. Identified professional role competencies are only tentative. They need to be validated. Judgments about the achievement of those competencies by trainees also need validation. Program operation effectiveness needs to be monitored. The relationship of teacher behavior to pupil learning needs further attention through research. CBTE pushes educators and researchers to address themselves to these and other problems. Through such efforts, CBTE programs are kept open and regenerative." (Massanari, 1973, p. 247).

"The majority of evaluation issues raised by performance-based teacher education are not new. What is new and significant about performance-based teacher education is that for the first time, systematic evaluation of teacher training models and products is called for. It is the required synthesis of evaluation problems which heretofore have been treated largely individually which make evaluation an issue in performance-based teacher education." (Airasian, 1973, pp. 1-2).

"They believe that "teacher education is coming of age as a behavioral science" and that the 1970s will see CBTE programs developed on the basis of empirical knowledge about human learning. Systems theory, it is hoped, will contribute to this development and as the inter-disciplinary trend gains momentum, the possibilities for a more comprehesive theory of behavior will be advanced." (Hamilton, 1973, p. 21).

"*Is funding available to establish an empirical base for CBTE?* . . . . The proposal by the Educational Testing Service for establishing a National Commission on CBTE roughly projects a ten-year time span: The coordinating Committee has drafted a preliminary ten-year plan with specific goals for each year. It expects to have resolved the major problems of the movement by that time and to have model programs in operation. These estimates are generally conservative, however, and the timetable will be accelerated wherever possible." (Educational Testing Service, December 1972) (Hamilton, 1973, p. 47).

"The lack of a major prior commitment by USOE to research on the relationship between teacher behavior and pupil outcomes does not encourage optimism for a major future commitment in this direction, especially in an era of declining funds for education generally. It also seems unwise to assume that agencies outside the federal government will invest heavily in this research." (Hamilton, 1973, p. 48).

"Perhaps, most importantly, CBTE can foster some needed, if fragmented, research that can take us closer to the goal of understanding and perhaps ultimately defining what competent teaching really is, and thus perhaps somewhat improve the quality of teaching. But expectations for widespread reform via CBTE must be considered totally unrealistic." (Hamilton, 1973, p. 46).

"The New York State Regents are more definite. Speaking of the plan for meeting the goal that will require certificate holders to maintain demonstrated competency, the Regents assert:

> This step in the achievement of the goal should be fully realized after 1990. At that time, staff behaviors that positively affect pupil performance will have been validated and should become the focus for the periodic assessment requirement.

The Budget of the U.S. Government: Fiscal Year 1974 Appendix, Washington, D. C., pp. 432-433 (1973). (Hamilton, 1973, p. 47).

"*Is the required research skill available?* Here again the outlook is not promising." (Hamilton, 1973, p. 48).

"First, we welcome the thrust of the Performance-Based Teacher Education movement toward an attempt to develop a coherent body of knowledge teaching and the effects of specific instructional strategies on the learning process." (Feldman, 1972, p. 69).

"The overriding issue is professionalization. Teachers long have claimed that their calling is a profession . . . . The difficulty of establishing an adequate validated knowledge base for professional practice long has stood in the way. The belief that teaching can and must be professionalized is stronger today than ever, however; CBTE is seen by many observers as the most promising vehicle yet devised for achieving this status." (Houston, Hawsam, 1974, p. 301).

"It can be expected that the cornerstone of teacher education curriculum reform will be research and development in teacher behavior, with the preparation of specially trained teachers as an essential component. Moreover, professional schools of education will address themselves to the task of reform by planning, developing, and field testing new instructional materials and more effective procedures for measuring teacher performance." (Rosner, 1973, p. 3).

> "What is the difference between criterion-referenced and norm-referenced assessment with regard to competency based teacher education programs?

Criterion-referenced assessment is an evaluation procedure which allows for a determination of whether or not a student has achieved an objective at the criterion level specified. Norm-referenced assessment is an evaluation procedure which places the performance with that of others. CBTE programs employ criterion-referenced assessment procedures while the traditional programs generally employ norm-referenced assessment. That is, CBTE programs specify the objectives to be demonstrated and the criterion level at which it is to be demonstrated. The performance of the student is judged on the basis of predetermined criteria and is not compared to that of his peers. The program's expectations are made explicit and public through the use of objectives and pre-established criteria. The utilization of criterion-referenced assessment in a CBTE program ensures that program graduates have demonstrated mastery with regard to each competency specified; consequently, CBTE programs do not graduate "C" students." (Weber, Cooper, Houston, 1973, Issue 23).

"What is the major problem associated with CBTE development? The lack of empirical knowledge on teacher behavior as it relates to pupil outcomes is CBTE's biggest handicap." (Hamilton, 1973, p. 46).

"The critical issue then becomes this: unless the relationship between teacher behavior and pupil outcomes can be established, there is no sound basis for certifying teachers under the CBTE approach." (Hamilton, 1973, p. 47).

"Question Criticism - We really know so little about how children learn that it seems ridiculous to base a program on competencies that may not be the appropriate ones."
Retort - Again, if this is true of a Competency Based program, it is also true of the conventional one. The advantage again falls to the former because at least we know what has been done to the students in the way of competencies. Our present programs could be compared to a physician pumping a number of unidentified drugs into a patient, and then not knowing why the patient either recovered or died. We cannot guarantee at the 100% level that the competencies identified in any program are the ones which can facilitate pupil growth. Having identified the specific competencies that the graduates have, we should be able to engage in a much more meaningful follow-up analysis to ascertain the relevance of the competencies." (Arends, Elmes, Masla, 1972, p. 5).

"In actuality, the CBTE movement depends far more strongly on sheer faith that the relationships between teacher behavior and student outcomeswill be established by future research than it does on actual evidence from existing research." (Hamilton, 1973, p. 47).

". . . our contention is that for some of our students the whole competency leitmotif is but another self-authenticating prop for the status quo.

Because of our overzealous preoccupation with quantifiable and incremental competency procedures, we are becoming deafened to the cries of students for competencies in areas that do not lend themselves to precise assessment. We look for immediately observable, cut-and-dried evidences of behavior modification (as exemplified by such assessment procedures as Flanders interaction analysis), while our students scream for help in developing competencies to rectify personal, educational, and social dislocations." (Nash, Agne, 1971, p. 148).

"We must look carefully at the appropriateness of the degree of objectivity and precision of measurement called for by PBTE . . . . It is no less inappropriate to demand precise measurement of certain subjective states than it is to tolerate imprecise measurement of certain externally observable procedures. Some of the most important educational products, such as creative invention, critical thinking, personal goal setting, choice making, educability (in the sense that Douglas Heath uses the term), feelings of competence, and so on, may be at least amenable to the precise external formulation of behavioral standards." (P. Nash, 1973, p. 10).

"What are the teacher competencies known to be related to teacher effectiveness?

If teacher effectiveness is defined as being able to bring about desired affective and cognitive outcomes with learners, educational research is able to provide us with few empirical answers. B. O. Smith (1971) concludes that there are few, if any, skills of teaching whose superiority can be counted as empirically established. Rosenshine and Furst (1971) in a comprehensive review of the literature, conclude that there are only five teacher variables that have strong correlational support with student achievement. These variables are: clarity, variability, enthusiasm, task orientation and/or businesslike behavior, and student opportunity to learn. Six other variables which have less support but which Rosenshine and Furst believe warrant further study are: use of student ideas and/or teacher indirectness, use of criticism, use of structuring comments, use of multiple levels of discourse, probing, and perceived difficulty of the course. The relationships of these variables with measures of student achievement are postive except for use of criticism.

For some time to come teacher educators will probably be forced to specify desired teacher competencies on the basis of their philosphy, their experience, and task analysis data about what teachers do in classroom."

Smith, B. Othanel (Editor). RESEARCH IN TEACHER EDUCATION. Englewood Cliffs, New Jersey: Prentice-Hall, 1971.

Rosenshine, Barak, and Norma Furst. "Research on Teacher Performance Criteria," RESEARCH IN TEACHER EDUCATION. Edited by B. Othanel Smith. Englewood Cliffs, New Jersey: Prentice-Hall, 1971. (Weber, Cooper, Houston, 1973, Issue 18).

"We have no validated research conclusive enough to enable us to say that teachers with X or Y particular skill or trait or competency is going to elicit X or Y learning response.

We should know --we should be working hard to learn these things. We should be working at it in our universities, in performance-based teachereducation programs, in the classrooms of our public schools and with the aid and advice of experienced classroom teachers. We should be conducting research on the subject and we should be making a massive commitment of funds to research--for it is probably a key to improved education for children--and for that we support Performance-Based Teacher Education as a hope of getting the research done." (Feldman, 1972, p. 72).

"More and more, the public feels that anyone can teach; that all you have to do is love children and be able to talk. In part, this, too, is a result of our success, for we have--thanks to the public school system--a literate and educated public, many of whom feel they can do what teachers do. But, in part, this attitude thrives because we have not developed a visible, clearly formulated "technology of teaching" which can be translated into concrete instructional skills and methodologies. We have not coherently assembled the expertise of experienced teachers to demonstrate a concrete, tangible body of knowledge identified as teaching.

The classroom-centered, research-oriented Performance-Based Teacher Education provides a hope of doing that. It offers the possibility of providing teachers with real knowledge about successful classroom strategies and, beyond that, with the concrete skills they need to carry out those strategies.

For this reason, and because of the great need of the profession and of the schools for answers we don't now have, we look favorably on Performance-Based Teacher Education. We oppose, however, a changeover to Performance-Based Certification at this time." (Feldman, 1972, p. 70).

"With all of the millions of dollars and manhours of work, sweat and toil, there are only about four areas of the effectiveness dimensions of teaching which seem to be validated and authenticated over and over again. . . . First, good teachers are good because they view teaching as primarily a human process involving human relationships and human meanings. On an effectiveness continuum, in other words, the area of healthy, involving human relationships seems to be something which marks every effective teacher. The second conclusion is that good teachers have a positive view of themselves and of others. Third, effective teachers are well-informed. Fourth, effective teachers are able to communicate what they know in a manner that makes sense to others . . . . Performance criterion approaches deal with only one of those four areas." (Openshaw, 1972, p. 6,11).

"One of the humiliating uncertainties that hovers over every PBTE experiment, however, is this: What will be accepted as evidence of successful performance by the teacher candidate? . . . . No one can provide an all-purpose answer to the evidence question, partly because answers are situation-specific, but more fundamentally because our knowledge base is too thin." (Elam, 1971, p. 15).

"I don't know about yours, but our State Education Department is busily listing behavioral objectives by the thousands. When we asked whether they were planning to do the research to validate them, they said no--they have no funds for that. The gentleman at our State Education Department who is in charge of all this said "we can't wait" for sophisticated instruments of measurement to be developed, even though he admits candidly that what we have is not very sophisticated. Still, he not only advocates basing certification on assessed performance or competency, he advocates "continuing" certification--not just "continuous career preparation," but continuing certification--on this basis, so that every five years a teacher will either be re-certified or de-certified on the basis of demonstrating "required competency." Tenure will be destroyed--but no one yet knows:

> What the skills to be required are.
> How we will measure them when we figure out what they are.
> Whether the skills we pick actually have an effect on learning. (Feldman, 1972, p. 73).

"The majority of those associated with the CBTE movement are quick to admit that *the greatest weakness of the CBTE approach is the inadequate base of knowledge upon which it rests* . . . . In the absence of empirical evidence about teaching effectiveness, *confusion exists among CBTE developers* as to what criteria can and should be employed in specifying objectives and developing competencies-teacher knowledge, teacher performance, or pupil outcomes? . . . . Hypothesizing about teacher behavior in relation to pupil outcomes, however, could mean that until these hypotheses are validated, CBTE may be certifying teachers for behaviors that may or may not make a difference in pupil outcomes. In fact, carried to the extreme, CBTE could be reinforcing behaviors actually having undesirable consequences for pupils." (Hamilton, 1973, p. 19).

"There is no comprehensive and systematic evidence that any one methodology is superior to any other. We have no conclusive evidence that particular behavioral traits or "competencies" in teachers have a positive effect on learning in children. We have some indications--that "rewarding" behavior is better than "insulting" behavior, for example. But we have no validated research conclusive enough to enable us to say that teachers with X or Y particular skill or trait or competency are going to elicit X or Y learning response . . . . Now, we don't say do nothing until the research is done--we can build a model based on the limited knowledge available *and* on what classroom teachers *think* is valid--go on with the pre-service preparation in that image, and then test it out when those new teachers are on the job. That is, research and development can be development and research--as long as we do the research." (Feldman, 1972, p. 72).

"One of the oddest features of the PBTE movement is the failure of its proponents to acknowledge that the burden of proof is logically theirs--that it is up to them to establish that there exists any such thing as a discrete set of "competencies" the degree of attainment of which can be measured and which constitute the skills of the successful teacher. Implementation is urged, attempted, and even mandated in the absence of any reason to think that there exists a unique set of such competencies or any real evidence that even a single member of the set has been found." (Maxwell, 1974, p. 307).

"If what the student is asked to do is not shown to affect his teaching effectiveness, it has no valid claim for inclusion in a performance-based program. . . . Proponents of the approach are caught in a dilemma . . . . No one has a list of measurable "competencies" which are demonstrably those of the successful teacher . . . . Having no such set of competencies, we rather obviously cannot measure the prospective teacher's degree of attainment thereof." (Maxwell, 1974, p. 307).

"Lacking the set of competencies which the teacher demonstrably should have, PBTE proponents who think in terms of the basic model find themselves in a quandary. If you can't identify a set of measurable competencies that the teacher should have, you cannot specify how the degree of these competencies is to be measured." (Maxwell, 1974, p. 308).

"To think that we can stipulate the "specific behaviors" of the competent teacher in the same way that we can specify the desired range, speed, bomb load, and other characteristics of an aircraft is not to think. To believe that "research" will provide us these specific behaviors and the means to measure them reveals ignorance of the research methodology upon which the model rests." (Maxwell, 1974, p. 311).

"Despite the fact that proponents of PBTE readily admit that no one has ever identified the competencies of the successful teacher, little thought seems to have been given to the question of why this is indeed the case. There seems to have been remarkably little understanding of the natural science setting from which the basic model was borrowed . . . . We don't have a list of the competencies of the successful teacher for the simple reason that teaching is an art--not a science. A behavior that is a valuable asset to a given teacher with a certain personality in many (but not all) situations, insofar as most (but not all) of his pupils are concerned, may well go over like a lead balloon (to most students) if affected by some other teacher with a different personality." (Maxwell, 1974, p. 310).

"There is, to put it bluntly, no more empirical, objective evidence that the application of systems technology to instruction will contribute significantly more to improving the effectiveness or efficiency of an educational program than would the installation of an official school astrologer." (Systems, Systems Approaches, and the Teacher, 1972, pp. 27-28).

ASSESSMENT

Several issues have been identified in the preceeding sections that are the focus of serious concern. Perhaps the most significant problem, however, is the need for adequate assessment instruments and procedures. This problem is not unique to competency-based programs, but the need for appropriate assessment techniques is more obvious and greater in competency-based programs. A variety of perspectives concerning assessment of competencies is provided in the following statements.

"But the overriding problem before which the others pale to insignificance is that of the adequacy of measurement instruments and procedures. PBTE can only be successful if there are adequate means to assess the competency of the student." (Elam, 1971, p. 21).

"The danger appears to lie in premature certification of teachers on the basis of demonstrated performance in affective areas for which we have few if any reliable measures." (Hamilton, 1973, p. 50).

"There is no more important job for teacher education to complete than the development of reliable approaches to appraising teacher behavior." (Rosner, 1973, p. 5).

"Performance based teacher education will rise or fall on our ability to evaluate performance in relation to agreed-upon standards." (McKenna, 1973, p. 4).

"Until reliable instruments to assess complex teaching performances are developed, it will not be possible to implement CBTE." (Rosner, Kay, 1974, p. 295).

> "What are the assessment and evaluation problems faced by competency based teacher education program designers?

Problems regarding assessment and evaluation are among the most difficult faced by those involved with CBTE programs. Because CBTE programs place primary emphasis on the student's ability to demonstrate competence relevant to specific objectives, it is vital that the procedures which are used to assess the progress of the student yield data which are useful in determining whether or not the student has met the objectives. And, because CBTE programs advocate a systems approach to design and operation, it is crucial that the procedures which are used to evaluate the effectiveness of the program provide data which are useful in making decisions regarding program modifications. The problems associated with student assessment and program evaluation are very great--and largely unsolved. Elam (1971, page 21) lists several problems which he feels are crucial and then adds:

"But the overriding problems before which the others pale to insignificance is that of the adequacy of measurement instruments and procedures. CBTE can only be successful if there are adequate means to assess the competency of the student." And McDonald (1972, page 56) asserts that "in competency-based programs, the emphasis on accountability, on scientific inquiry, and on the use of evaluative feedback for program development all thrust evaluation into a prominent role. Current efforts to measure teaching behavior are far from adequate. Rapid development is required if evaluation is to provide the needed stimulus to the competency-based movement."

As difficult as the problems of assessment and evaluation are, the solution is not to abandon CBTE as unworkable. On the contrary, it is through the implementation and operation of CBTE programs that answers will be found."

McDonald, Frederick J. "Evaluation of Teaching Behavior," COMPETENCY-BASED TEACHER EDUCATION: PROGRESS, PROBLEMS, AND PROSPECTS. Edited by W. Robert Houston and Robert B. Howsam. Palo Alto: Science Research Associates, Inc., 1972. Chapter 4, pp. 56-74. (Weber, Cooper, Houston, 1973, Issue 22).

". . . within the past ten years educational assessment, measurement and testing have come under heavy fire, . . . The charges cover a wide range, including the accusation that testing is often a pointless exercise, its results seldom used in planning programs or in teaching. PBTE may force a reversal of this trend. . . most educational tests, and particularly intelligence or psychological tests, have not been "culture-free." With its emphasis on exit rather than entrance competency PBTE may attract teacher candidates for whom culture-free tests, not yet available, will be a critical necessity. To achieve its promise, institutions employing PBTE may have to foster and encourage development of such tests." (Elam, 1971, p. 21).

"The promise of PBTE is in the fact that it provides better bases for designing research about teaching performance." (Elam, 1971, p. 15).

"CBTE pushes educators to obtain or develop and to apply appropriate assessment techniques. While assessment has always been problematic for educators, it is particularly critical for CBTE. CBTE is heavily process oriented because it emphasizes the demonstration of competence. Implementation of CBTE requires assessment techniques to determine the appropriateness of given program competencies, the achievement of the selected competencies, the effectivenss of the training materials and procedures, and the effectiveness of program management. CBTE pushes educators to obtain or develop assessment techniques which are applicable to all of these program elements.

It pushes them both to develop new assessment techniques and to make clear to the profession and to society that new kinds of assessment techniques are needed and will be used. CBTE pushes educators to break through the narrow assessment boundaries imposed by the scarcity of available techniques." (Massanari, 1973, p. 247).

"Paralleling the development of instructional materials will be the development of measures of teacher behavior. Measurement procedures will become vital components of teacher education and training programs, and they will be designed to guide prospective or inservice teachers to required levels of concept and skill attainment." (Rosner, 1973, p. 5).

"In addition to the evaluation procedures developed for the instructional program, considerable progress can be expected in real-world assessment techniques to ascertain whether beginning teachers can integrate knowledge and the rudiments of skill into complete sequences of instructional behavior. These measures will require teachers to work with students under actual teaching conditions in order to accomplish a specific instructional objective. The objective or task, selected from contemporary school curricula, will be chosen to elicit significant dimensions of teacher behavior." (Rosner, 1973, p. 5).

"If the issue of assessment can be resolved through the cooperation of subject matter specialists and educators, PBTE can become an educational movement of enormous force. In teacher education, indeed in all of undergraduate education, the principles of PBTE can be used by departments to involve students more fully and responsibly in their learning, to make clear and public statements of the goals of their courses and programs, to experiment with evaluation and assessment of students and programs, to introduce alternatives to traditional courses and course structures, and to involve students and faculty members more fully in the life of the school community, and society." (Shugrue, 1973, p. 14).

"There's a complex interaction between the setting and performance, an interaction that affects performance in a major way, one that we haven't much taken into account, let alone analyzed;" (McKenna, 1973, p. 1).

"Measuring specific performances at various criterion levels will be costly;" (McKenna, 1973, p. 2).

"A universally valid instrument to measure teaching competence is not available, the alternative would seem to be the local development of a useful instrument. Such development requires enormous lead-time." (Hamilton, 1973, p. 23).

"That there is a monumental problem in matching teaching styles to learning styles;" (McKenna, 1973, p. 2).

"An extremely important problem that was not discussed is the logistics of assessment. How can we find or arrange the resources available in non-project schools to have people available to check the performance of hundreds of tasks? Will there be any time left over to help, tell, show, advise, in short--teach? (This leads to the really sticky problem of whether university faculty will be willing to exchange as much of their teaching role for an evaluator role as PBTE will require . . . assuming each of us does not have a graduate assistant or two, a computer, etc.) (Colleges and Universitites)" (Final Report, AACTE, 1973, p. 7).

"We lack summative evaluation tools; i.e., there are rating forms for making global judgments, and there are research tools containing specific skill formulation--but nothing in between;" (McKenna, 1973, p. 1).

"If we are concerned with the whole quality of a teacher's being then we will recognize the severely limited nature of the information we gain by measuring his specific attributes or behaviors and will be concerned to protect him from the tyranny of inappropriate measurement." (P. Nash, 1973, p. 11).

"We understand that a great many things besides specific teacher performance also affect learning, and teachers can be held accountable only for those things over which they have control. State legislatures, and some state education departments, usually do not understand this. They usually understand the assessment of performance as an evaluation of product. Translated, this means the evaluation of teacher performance on the basis of pupil achievement scores, and nothing more. It is an easy and popular notion.

The introduction of performance-based certification requires legislative action, and we are wary of it in this atmosphere." (Feldman, 1972, p. 72).

"How will any criteria by which a teacher's competency is to be established take adequately into account the mercurial nature of any any class?" (Shugrue, 1973, p. 12).

"The tools for measurement in the social sciences, including teacher education, are in an infant stage, i.e., even with the sophistication developed in measurement on cognitive skills such as READING, we're still not able to diagnose causes of all reading difficulties let alone prescribe behaviors that will correct them --so, it has been asked, how will we soon be able to measure attitudes, values and the like?" (McKenna, 1973, p. 2).

"It seems impossible to develop a PBTE program without being able to measure the performances that are deemed desirable. The perennial danger is that whatever cannot be measured will simply be excluded. But, according to humanistic criteria, this would leave out the most crucial educational values, given our present level of skill in measuring. If the measuring is done by an external evaluator, it may be impossible to distinguish desirable from undesirable behavior. What the humanistic educator wants to develop is "free" (in the sense of intentional, deliberate, integrative, goal-oriented) action. But this may, at any one observed moment, be indistinguishable in its external manifestations from random or manipulated behavior." (P. Nash, 1973, p. 3).

"Where work is being done on evaluation related to performance-based teacher education, there appears to be overemphasis on evaluation of didactic teaching styles. One hears the terms "teaching lessons" and "collecting student papers" and other lecture-type activities referred to all too frequently." (McKenna, 1973, p. 3).

"The failure of most current competency programs is that the teacher is always projected as an authoritative superordinate in the classroom while the child is kept in a suspended state of dependency, anxiously awaiting the cues of his teacher of the latest learning device. For many students, educational reform can occur only when the roles are equalized--if not reversed." (Nash, Agne, 1971, p. 153).

"We have learned that some competencies are more easily measured or assessed than others. A pre-test on a module concerned with teaching fractions to students is a relatively accurate indication of the degree to which fractions are mastered. A pre-assessment and post-assessment of the module centering on clarification of an intern's personal philosophy of education is more subjective and not quantifiable; evaluation of an intern's progress and growth in this area, nonetheless, is both possible and desirable. We have utilized a number of forms of evaluation, depending upon the nature of the competency being evaluated. This has allowed us to build a flexible, individually designed program that takes into account a great variety of personal and professional competencies." (Wheeler, 1972, p. 3).

> "Because of the emphasis on objectives, are competency based teacher education programs in danger of emphasizing competencies that are more easily measured rather than those that may be most worthwhile?

The above question has long been a point raised by those opposed to the use of behavioral objectives, and there is no doubt that this danger does exist. Unless one is aware of the danger and is on guard against it, it is possible to lapse into a predisposition to value those aspects of content that can most easily be put into behavioral terms.

There are, however, several protections against this danger. First, if the total teacher education program has been conceptualized, including a model of the kind or kinds of teachers the program wishes to produce, then the competencies developed must fit within this total conceptualized framework. Second, one of the chief potential advantages of a competency based program is that it places greater emphasis on performance and consequence competencies than traditional programs. Since performance competencies are apt to reflect behavior demonstrably related to teaching, they are less likely to be irrelevant than are knowledge competencies. If program curriculum developers emphasize knowledge competencies to the detriment of performance and consequence competencies, then the danger of triviality is increased. Third, statements of teacher competencies are not as specific as the behavioral objectives advocated by such writers as Mager. For example, a behavioral objective for a teacher education program might be: "The trainee will ask a minimum of five probing questions in a five-minute microteaching lesson with a group of four fifth-grade students." While this type of objective has the advantage of great specificity, it also has the disadvantages of convergence and restrictiveness. The real intent of this objective is to ensure that the trainee possesses the competence to ask probing questions of school age children. While this competence might be demonstrated under the above stated conditions and criterion level, it might also be demonstrated under other conditions and different cirterion levels. Stated as a competence, it might read: "The trainee will demonstrate the ability to ask probing questions of school age children," leaving the context and criterion levels to be determined later for each individual student." (Weber, Cooper, Houston, 1973, Issue 28).

"The problems of measurement place us in a difficult dilemma with respect to PBTE. On the one hand, we know that there is a tendency for educational programs to be dominated by evaluation procedures. Schooling becomes whatever can be measured with available instruments. Hence, if humanistic elements are not measurable they will be excluded. On the other hand, the task of measuring affective, volitional, aesthetic, and other major elements is so difficult that there is constant danger of trivializing the whole educational process in the cause of more efficient testing." (P. Nash, 1973, p. 11).

"Instructional programs based upon the clear identification of objectives or competencies have a lengthy history of paying lip service to the importance of affective outcomes, but concentrating evaluation efforts on more easily measured non-affective areas. By following such a practice, evaluators define the cognitive and psychomotor aims as the really important objectives of the program, regardless of what the program designers claim about the importance of affective aims. It doesn't take long for students to "psych out" what is required of them and to shape their behavior to comply with expectations." (Airasian, 1973, p. 21).

"Can performance in the affective domain be assessed as effectively as performance in the cognitive and psychomotor domains, and if so, how?" (Elam, 1971, p. 21).

"Individuals responsible for record keeping in performance-base approaches must resist the inevitable pressures from school administrators and certification boards to provide a number or a brief statement to characterize a student . . . . To succumb to such entreaties will return certification and hiring practices to a "highest number wins" basis, with the result that specific relevant capabilities will be overlooked or ignored." (Airasian, 1973, p. 23).

It is inferred from Gentry that competency-based programs have potential to meet the following weakness common to traditional teacher education programs: . . . "Norm referenced grading is the usual means for assessing students. It is expected that a certain number will fail. The testing procedures and instruments often fall short of good psychometric practice (lack validity and reliability). Criteria for constructed or psychomotor assessment is not public before the test (grading)" (Gentry, 1972, p. 2).

"The advent of PBTE raises again the conflict between individual testing and aggregate testing. . . . Since PBTE must rely on individual testing, it is easier to see how it fosters competitive selection than how it encourages the development of human interdependence." (P. Nash, 1973, p. 15).

"Knowing that all they must do is pass a given test, students are going to use those instructional materials that most help them do that and will give short shrift to those that don't. The program designer may think that certain content, theory, or experiences are good for the student, but if all the student must do is to pass the test, then that test controls his motivation and his learning activity. If we merely require him to encounter a variety of experiences regardless of the testing, we may have done little more than cut up our old courses into new pieces.

Judging from modules that are currently being developed, evaluation appears to have been an afterthought. It is often crudely devised. The developers' energy, effort, and imagination have gone into producing the materials themselves, not into means of assessing mastery of them." (Elam, 1971, p. 22).

"Actually, I believe that performance based teacher education is a promising and viable concept and should be pursued . . . . Until we can measure performance in such a way that we are able to confidently identify minimal levels of performance to practice the profession, we will not have performance-based teacher education." (McKenna, 1973, p. 2,3).

"The approach requires that the questions on which the student will be tested are those listed at the front of the module. The student can thus skim the material, pausing to concentrate his attention only on those paragraphs that appear to be related to the questions. Similarly, if the professor should be so old-fashioned as to lecture, the student can safely doze when the professor is treating anything other than the answer to one of the questions. The approach is thus particularly well suited to courses of little intellectual depth and in which the reading material is typically verbose (assuming the questions to be well selected)." (Maxwell, 1974, p. 310).

"Since the prospective teacher is simply being asked to perform for his professor, he takes a "teacher-made" test over the module. Neither the professor nor the student is compelled to recognize that the logic of PBTE would require a demonstration that performance on the test is linked to the prospective teacher's competence in the classroom." (Maxwell, 1974, p. 309).

"Frequently, practitioners simply arbitrarily state some numerical standard the meeting of which is ex cathedra proof of the behavior assumed (without evidence) to be necessary to effective teaching." (Maxwell, 1974, p. 309).

"Without establishing that doing so has any beneficial effects upon the prospective teacher's classroom performance, the professor can carve his course into "modules," rephrase the chapter-end questions in the textbook and move them to the front of each module, and then state the "performance level" required on a "teacher-made" test." (Maxwell, 1974, p. 310).

"We must surely ask, what would constitute confirmation that a student was able to "cause a student to feel free to seek knowledge," etc.? What would the class have to do to demonstrate that the student was competent to do this? Or, if as is presently the case, the child is not considered, what would the trainer accept as the "required" level of performance? And how does one justify the level? 80%, 90%, why not 5%? (Tarr, 1973, p. 12).

"Although the current writing on CBTE makes innumerable references to the social and political ferment in society, and in the schools, no explanation is offered to deleting the target of many community criticisms of teachers. Also, the work of Rosenthal & Jacobs - "Pygmalion in the Classroom" and others who are concerned with the effect of middle class values or ethnic values suggest that a teacher's attitudes are a highly significant item in determining pupil learning. One must hope that it was not the lack of assessment measures that caused the decisive factor in the determination of what we will try to identify and develop in teachers!" (Tarr, 1973, p. 6).

"Is there something dehumanizing about a system that seeks to measure all educational outcomes? . . . Opponents of objectives ask to see measuring instruments capable of measuring the hopes, dreams and aspirations of a unique human being." (Palmer, 1974, p. 357).

CERTIFICATION

As noted in the introduction, competency based teacher education and competency based teacher certification involve several different issues. In discussing the competency movement it is important to distinguish which of these areas is under consideration, and particularly what one means by competency-based certification since there are various interpretations of this. The statements which follow provide viewpoints on competency-based certification but the reader should keep in mind that in each case the type of system being discussed is not always clear.

"First, performance certification makes sense because a demonstrated ability to teach is the best evidence of teaching ability. Certification should rely heavily on evidence which verifies the ability of candidates to perform as teachers." (Marburger, 1972, p. 2).

"The adaptation of performance-based approaches to teacher certification could enhance the credibility of the certification process and strengthen teaching as a profession. Public confidence in the profession of teaching would be greatly enhanced 1) if it were possible to describe the candidates' demonstrated skills and knowledge and 2) if it were also clear that these are skills and knowledge which are not normally possessed by non-teachers. Needless to say, this could also have a salutary effect on the self-image of teachers." (Daniel, 1971b, p. 6).

"Because "the present system of certification is ineffective in the selection of 'good teachers'," PBTE offers state departments of education a tool with which to bring college, school, and community together to establish new kinds of certifiable teacher education programs which are demonstrably more successful in attracting and educating effective teachers." (Shugrue, 1973, p. 2).

"The critical issue then becomes this: unless the relationship between teacher behavior and pupil outcomes can be established, there is no sound basis for certifying teachers under the CBTE approach." (Hamilton, 1973, p. 47).

"To establish one prototype of teacher education as the sole route to legal licensure is pure folly, especially in the absence of established evidence through viable research. To base advanced credentialling or renewing certifications on such a singular notion is ever more upsetting. This is not to decry experimentation with performance-based teacher education. Already some developmental approaches to performance-based teacher education appear promising, if not highly successful." (Darland, 1972, p. 66).

"I don't know about yours, but our State Education Department is busily listing behavioral objectives by the thousands. When we asked whether they were planning to do the research to validate them, they said no--they have no funds for that. The gentleman at our State Education Department who is in charge of all this said "we can't wait" for sophisticated instruments of measurement to be developed, even though he admits candidly that what we have is not very sophisticated. Still, he not only advocates basing certification on assessed performance or competency, he advocates "continuing" certification--not just "continuous career preparation", but continuing certification--on this basis, so that every five years a teacher will either be re-certified or de-certified on the basis of demonstrating "required competency." Tenure will be destroyed--but no one yet knows:

> What the skills to be required are.
> How we will measure them when we figure out what they are.
> Whether the skills we pick actually have an effect on learning." (Feldman, 1972, p. 73).

"The danger appears to lie in premature certification of teachers on the basis of demonstrated performance in affective areas for which we have few if any reliable measures." (Hamilton, 1973, p. 50).

"More and more, the public feels that anyone can teach; that all you have to do is love children and be able to talk. In part, this, too, is a result of our success, for we have--thanks to the public school system--a literate and educated public, many of whom feel they can do what teachers do. But, in part, this attitude thrives because we have not developed a visible, clearly formulated "technology of teaching" which can be translated into concrete instructional skills and methodologies. We have not coherently assembled the expertise of experienced teachers to demonstrate a concrete, tangible body of knowledge identified as teaching.

The classroom centered, research-oriented Performance-Based Teacher Education provides a hope of doing that. It offers the possibility of providing teachers with real knowledge about successful classroom strategies and, beyond that, with the concrete skills they need to carry out those strategies.

For this reason, and because of the great need of the profession and of the scholls for answers we don't now have, we look favorably on Performance-Based Teacher Education. We oppose, however, a change-over to Performance-Based Certification at this time." (Feldman, 1972, p. 70).

"We understand that a great many things besides specific teacher performance also affect learning, and teachers can be held accountable only for those things over which they have control. State legislatures, and some state education departments, usually do not understand this. They usually understand the assessment of performance as an evaluation of product. Translated, this means the evaluation of teacher performance on the basis of pupil achievement scores, and nothing more. It is an easy and popular notion. The introduction of performance-based certification requires legislative action, and we are wary of it in this atmosphere." (Feldman, 1972, p. 72).

"While we see the thrust toward the development of real knowledge about performance as an important and necessary substantive change, we believe that efforts toward performance certification at this time--aside from being all form and no substance--will become engulfed in the turmoil of school politics because, like structural governance changes such as decentralization, lacking educational and intellectual substance and validity, it becomes all things to all people. If it dies on the battlefield of school conflict--and if performance-based teacher education dies with it--an opportunity to achieve an important change will have been lost." (Feldman, 1972, p. 73).

"I want to say at the outset that we do not oppose Performance-Based Teacher Education. The concept is a welcome one. . . . I will tell you second about our strong reservations, our opposition to Performance-Based Certification--" (Feldman, 1972, p. 69).

"We will oppose any attempts (and I'm talking about New York) to institute performance certification before research has been completed." (Feldman, 1972, p. 74).

"Important issues are certain to arise with respect to recertification of inservice teachers under the CBTE doctrine. There could well be an avalanche of due process claims from teachers denied recertification. A civil rights lawyer says that CBTE can be used as a screening device to eliminate minority group teachers. If so, school districts can expect challenges by civil rights claimants. He expressed concern that competency-based certification could be used to dismiss ethnic teachers, citing the case of southern school districts where, under court-ordered desegregation a large number of black teachers were discharged on grounds of incompetency. Civil rights lawyers, he claims, will be watching CBTE very closely. Article referred to is: UFT minutes of March 21, 1972." (Hamilton, 1973, p. 30).

"A major concern of CBTE advocates is that resistance from both classroom teachers and education college faculty may be created through hasty and inappropriate legislation on certification based on CBTE standards.' (Hamilton, 1973, p. 29).

"If institutions of teacher training are left to be the certifying agencies, as they are insisting, there's a good chance the forms outlining their plans for competency-based programs will be filled out correctly--but they may well be "old wine in new wineskins." (Hamilton, 1973, p. 32).

"To base certification on these uncertainties in an anti-education political atmosphere will simply open the door for some legislatures and some state education departments to water-down standards to make economies. There is some talk, for example, of doing away with the degree as a requirement." (Feldman, 1972, p. 72).

"And it may well be that a judicious use of PBTE can help to break open some old rigidities, such as grades, credits, and schedules, and introduce some flexibility and alternatives that will constitute a humanizing influence on teacher education. It also holds promise of enabling teachers to become certified without ever attending an institution, a promise that might have a humanizing effect even before its realization." (P. Nash, 1973, p. 4).

"In some professions license to practice depends on passing the professional examination (the bar exam, for example). As yet teaching has found no adequate means to accomplish this, hence program control is used. In time, CBTE should provide some answer to this problem." (Houston, Howsam, 1974, p. 303).

"Smith further argues that there is no point in state after state developing its own measures of basic skills and behaviors; instead of such a diverse effort, which would make reciprocal certification difficult to justify, a national plan should be worked out to develop a catalog of skills and behaviors. When one examines the documents of the State Education Accountability Repository, it can safely be assumed that uniformity between states might be enormously difficult to achieve." (Hamilton, 1973, p. 28, 29).

"Seems likely that the teacher performance objectives will also be conservative, since the states will in effect be trying to locate teachers who can raise basic skills examinations scores. If the movement proceeds unchecked, English departments may find themselves under pressure to train teachers whose principal skills are leading language drill and planning seatwork." (Shugrue, 1973, p. 13).

"The United Federation of Teachers' Committee on Performance Certification has made several important recommendations . . . . Intensive research in teacher behavior and instructional methodology to scientifically and objectively determine the criteria necessary to positively affect learning. Support of the position that research and development in this area should begin with development, that is, with a model put together by what experienced classroom teachers think is valid. Student teachers can then be taught in that image, and the effectiveness of the approach can then be measured in the schools. Opposition to the product notion of teacher performance, to attempts to institute PBTE/C before the completion of validated research, to the concept of continuing certification, and to attempt to relate PBTE/C to merit pay." (Bhaerman, 1974, p. 7).

"The UFT opposes any attempts to institute performance certification before the completion of validated research." (Kemble, 1974, p. 8).

"And, in New York, the idea of recertification alone--with judgments of teachers based on a changing "logic and tradition"--would be enough to instill teacher fear and conformity. This "logic and tradition" will, after all, mean different things in different districts throughout the state. The meaning of certification will change from the content demanded by universitites to the local prejudices of particular school districts. Employment and certification will be linked as never before and school administrators will control both. This drive toward the measurable, when combined with the localist aspects of the proposal recertification, is bound to lead to greater control, less flexibility, and a new form of parochialism." (Kemble, 1974, pp. 5-6).

"When teachers are to be educated, certified, and then recertified on the basis of competencies derived from "the best professional judgment available," or "logic and tradition," questions arise as to who makes these judgments, how often they change, and to what ends?" (Kemble, 1974, p. 5).

"In short, Deans and Directors, I hope you don't "blow it." I caution you, therefore, to proceed slowly until a more solid research and knowledge base is established. Frankly, I am amazed at the speed at which this innovation is being propelled at teachers and the public, particularly when many of the basic concepts are untested. When they are tested, let us hope that we do not find they are "unsafe at any speed." Let us go slowly until we know exactly what we are doing, until we have the necessary bases which so many educators are talking about. Let us "cool it" until we have a clearer view of where "the path" may lead us." (Bhaerman, 1974, p. 9).

"The position of a LIFT Committee on Performance-Based Certification was presented: a strong case for not linking specific competencies to certification. The feeling is that not enough specific competencies are validated by research; however, there should be a massive commitment to research in this area. It was felt that basing certification upon specified competencies is unwarranted at this time." (American Federation of Teachers, 1972, p. 32-33).

"If state agencies begin to require the mastery of specific competencies as a prerequisite for certification, two dangers would exist. The first would be that pointed out earlier: non-validated knowledge and skill competencies as well as personal characteristics unrelated to true teaching effectiveness may be required, leading to certification standards perhaps even more non-relevant than those now existing. Second, pressure groups may be able to legislate requirements that attempt to define teachers and teacher behavior into unacceptable patterns. A candidate would be required to fit the mold or not be certificated. Only alert and active teacher involvement can prevent the certification process from becoming "Big Brother's" test for the "perfect teacher." (American Federation of Teachers, 1972, p. 32).

"If performance-based certification is imposed as a quickie solution without the preparation, research and development which Rosner advocates, it will end up on the junk pile with the many other innovations which turned out to be nothing more than public relations ploys." (Shanker, 1972, p. 7).

PROGRAM ELEMENTS

In studying the pros and cons of competency based teacher education it is of value to examine its various elements. This section contains statements regarding the nature and definition of CBTE, and factors leading to its development. Most of the comments refer to specific elements, such as a systems approach, personalization, etc., which have been associated with various types of CBTE programs.

"That competency-based teacher education has come to mean so many things to so many different people is probably the single most serious issue confronting the competency-based movement at present." (Rosner, Kay, 1974, p. 291).

"PBTE must be viewed as a process; a movement, with many components always in process for meeting the needs of learners--i.e., individualized instruction as a process. (Colleges and Universities)" (Final Report AACTE, 1973, p. 6).

"The requirement of developing conditions to complement a student's individual learning style is not limited to verbal interaction situations between the student and the instructor, or other students, but includes self-instructional situations. That is, for a group of students, a number of alternative self-instructional tracks complementing different learning styles, need to be developed for the learning of a particular concept, or set of concepts." (Gentray, 1973, p. 2).

"In a traditional program, time is held constant while achievement varies. The emphasis is on the completion of a certain number of courses regardless of whether the student acquires mastery in all areas of study. On the other hand, in a competency-based program, achievement is held constant and time varies. That is, the competencies to be achieved are specified and the student achieves those competencies at his own rate of progress. He moves as quickly as he wishes and is able." (Weber, 1970).

"In a competency-based program, the student is free to plan his schedule of activities around his needs and interests while working toward the achievement of specific competencies. While recognizing realistic fiscal parameters, compëtency-based programs reflect a concern for maximizing the use of student time--the crucial resource never to be squandered. Precisely because they are reality-oriented, competency-based programs require that students spend proportionately more time interacting with children." (Weber, 1970).

"Traditional programs place heavy emphasis on entrance requirements. Competency-Based programs put greatest emphasis not on entrance requirements, but on exit requirements. Simple logic suggests that it is much more germane to examine an individual's abilities after completion of a program, rather than before he has even entered it. Competency-based education assumes the obvious wisdom of this observation. One dividend of the competency-based approach is to open the doors of teacher education to enable individuals who might otherwise have been excluded from equal educational opportunities. Another dividend is to assure mastery of all competencies." (Weber, 1970).

"Indeed, many of the CBTE proponents fear that traditional teaching will continue and be called "competency-based" without effecting any real change. There are confliciting perspectives even among the advocates as to what is really new and different about the competency-based approach. Some say what's new is the explicitness of the teacher competencies. Others see CBTE as radically different, in opposition to every aspect of traditional teaching. Still others say its not at all revolutionary--it actually started with the instructional reform movement of the 1950s." (Hamilton, 1973, p. 32).

It is inferred from Gentry that competency-based programs have potential to meet the following weakness common to traditional teacher education programs: . . . . "While a faculty member might develop an excellent course, usually when he leaves all of the planning and fine ideas in the course go with him. The new faculty member must either start from scratch or use materials and plans developed in another setting. (faculty attrition)." (Gentry, 1972, p. 2).

It is inferred from Gentry that competency-based programs have potential to meet the following weakness common to traditional teacher education programs: . . . . "It is often difficult to get information from the various levels of administration. Information received is often inadequate or obtained too late for effective planning. Departments and other units controlling resources for the teacher education program are defensive and competitive. I do not really know much about what most of my colleagues are doing. The system does not regard cooperative planning of our teacher education program, nor does it formally provide time for such cooperative activities. (communication breakdown)." (Gentry, 1972, p. 1).

It is inferred from Gentry that competency-based programs have potential to meet the following weakness common to traditional teacher education programs: . . . . "Faculty recognition, promotion, and tenure are not based on primary criteria of teaching (i.e., how effective you were in changing student behaviors), but rather on secondary criteria (i.e., popularity, student affective evaluations, research, project management, consulting publishing, etc.). (secondary criteria)." (Gentry, 1972, p. 2).

It is inferred from Gentry that competency-based programs have potential to meet the following weakness common to traditional teacher education programs: . . . . "Little real integration of program elements. A great deal of duplication across courses (ex. teaching of behavioral objectives). Faculty do not really know what their collegues are doing in their courses. Levels of objective information on difficulty and sequence of concepts within the program, exists at a rudimentary level. (program isolation)." (Gentry, 1972, p. 1).

"It is a mistake, however, to give the impression that PBTE, given equal time, will produce a professional teacher any more than the present smattering of theory and spotty practice can hope to do." (Broudy, 1972, p. 13).

> "What weakness in traditional programs does competency based teacher education attempt to correct?

1) There is a limited conceptualization of the total program.

2) Most programs are designed without a research base.

3) Goals, when stated, are too vague.

4) Changes and innovations are made in piecemeal fashion.

5) Program components are frequently determined by tradition, not function.

6) Program evaluation is rarely performed.

7) Programs remain largely unresponsive to changes in the internal and external environment.

8) Programs are not client-oriented.

9) Most teacher education programs have provided teacher education students with poor models of instruction."

(Weber, Cooper, Houston, 1973, Issue 7).

"Few schools of education will resemble their present form. Graduate faculties will be working more closely with inservice teachers preparing them for their teacher-training functions or other supervisory responsibilities, and they will participate with other education professionals in staffing educational assessment centers. In addition, universities will engage in rigorous research related to the measurement of competencies and the development of new teacher education instructional materials."

"It is not unreasonable to expect that by 1980 instructional materials can be created for a number of preschool, elementary, and secondary teacher education curricula, for example, systems for developing competency in the teaching of reading and mathematics. We could have excellent materials to help teachers develop human relations skills and other skills indespensable to the creation and maintenance of effective instructional environments." (Rosner, 1973, p. 4).

"The PBTE movement requires additional funding if salutary outcomes are to be ensured. There is likely to be a shortage of appropriate materials and facilities, for example, unless adequate funding is forthcoming in the near future." (Elam, 1971, p. 20).

"Since the above conditions are those primarily required for the operation of a Program Planning, Evaluation, and Budgeting System (PPBS), maximum efficiency could be derived from the college's resources." (Gentry, 1972, p. 3).

"It is inevitable that several cost-effective training models will emerge, each appropriate to its unique geographic setting. Clinical experiences will be carefully designed and supervised, and the haphazard, inefficient preservice exposures we have now will gradually disappear." (Rosner, 1973, p. 6).

"It is not CBTE as such that will cost more, however. It is improvement in quality of program that will cost more. Also, the needed development activites require interim resources beyond what program continuance might require." (Houston, Howsam, 1974, p. 303).

"Most seriously, PBTE could be interpreted as a prime example of the "accountability fad" in education and as the latest attempt to impose a highly questionable systems approach on education . . . . Proponents of a systems approach to education often fail, first of all, to understand the essential difference between efficiency and cost effecitiveness on the factory assembly line and the intelligent, humane use of educational resources to foster individual student learning." (Shugrue, 1973, p. 4).

"We must guard against a widespread tendency to trivialize the problems of efficiency in higher education. It is not only a financial problem but an intellectual one." (Report on Higher Education, Frank Newman, Chairman, 1971, p. 32).

"Another shortcoming of the systems approach used in most of the models is its self-validating nature. The feedback loops in the models maximize their efficiency at implementing existing policy; that very efficiency militates against policy change to adapt to social change. As an individual becomes demonstrably more efficient at a task, it becomes more difficult to convince him that his efforts may be misdirected. Provision for external input into the total systems loop at the policy level would be a necessary response to this problem." (Shaftel, 1969, p. 23).

"The feedback loop is possibly the most revolutionary aspect of the competency-based program because the feedback loop involves a systematic effort to establish a research oriented program. On the global level, feedback through research will indicate whether indeed the competency-based program is producing more effective teachers than traditional programs. On the sub-system level, feedback through research will make it possible for the technology, modules, behavioral modification techniques, protocol and training materials, program objectives, and other segments of a total program to be improved, modified, or discontinued. This represents a significant advance over traditional approaches where courses or content are dictated by intuition, regulation, or, quite literally, by tradition." (Cook, 1973, p. 9).

"The information derived from evaluation is used to make necessary modifications in the goals, processes, or components of the program. By using a systems approach to teacher education, a given program becomes responsive to the changes and needs of the society." (Kaufman, p. 11).

"Much is made of the fact that the rate by which a student progresses through the programs is determined by competence not "time or course completion." We might see an additional six months or a year as attending to individual differences, but will the program planners allow five years? ten years? Is there any limit to the resources spent on an individual?" (Tarr, 1973, p. 7).

"The student's performance is used as the primary source of evidence although what is meant by "performance" is not clear. One wonders if non-verbal performance is acceptable--and how would one assess it? And if we can't assess the raised eyebrow or a shrug of the shoulder will these performances also be placed on waiting list?" (Tarr, 1973, p. 7).

"Another essential element is that competencies are role-derived from explicit conceptions. In fact, the competencies that have been identified have not been logically derived through analysis of a conception, but rather empirically adduced. In any case, the lists of competencies being developed are formidable compendia." (Tarr, 1973, p. 6).

"The formula for performance-based instruction is deceptively simple: careful definition of performance goals in assessable terms and guidance of instruction by evaluation of learner performance. It might well be argued that any sensible approach to instruction includes formulation of goals and assessment of student progress. And so it does. The essential distinction lies in the degree of explicitness and realism with which goals are defined--their direct relationship to the learner performance ultimately desired and the degree of rigor with which the evaluative process is carried out in direct consonance with the stated goals." (AACTE Committee on Performance-Based Teacher Education, 1974, p. 8).

"Considerable energy has been consumed--some within the councils of the AACTE Committee--in arguing the relative merits of the phrases "performance-based teacher education" and "competency-based teacher education." Some proponenets of CBTE apparently believe the word "performance," with its connotation of physical activity, minimizes the importance of professional knowledge and the conceptualization and planning which may not be visible when a teacher "performs" in the classroom. They believe the term "performance" is too narrow, that it may encourage mimicry and superficial role-playing rather than the solid professional insight and ability which enable a good teacher to cope with novel situations.

Proponents of PBTE counter that for many persons the term "competency" connotes emphasis upon knowledge rather than practice and hence is likewise too narrow. They feel that the current movement is in significant part a reaction against programs which turned out teachers who were competent in the sense that they could make high scores on National Teacher Examinations or do well on master's degree orals but could not in fact perform well in the practical teaching situation. They feel further that emphasis upon identification of specific competencies leads to artificial fragmentation of the teaching process and to a "checking off" of competencies which is little improvement over credit-counting.

This conflict may be reconciled, the Committee believes, by recognizing that if one is pressed to define his terms, both concepts are necessary. Those who prefer PBTE do not claim that teacher education should be based on just any performance but on competent performance. "Competence" is understood, taken for granted. PBTE really means (C) PBTE. Likewise, those who prefer CBTE are not talking about competence in a limited pedantic sense but about competence in teaching performance. In this case "performance" is understood, taken for granted. CBTE really means C (P) BTE. Both concepts are necessary . . . . The AACTE Committee . . . is perfectly happy if anyone else wishes to use the term CBTE where it uses PBTE and considers the terms interchangeable within the context of its work." (AACTE Committee on Performance-Based Teacher Education, 1974, pp. 10-11).

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DEJA VU

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The scene is the AACTE-ATE national convention held in Chicago, the year is 2024. What you are about to witness has been described as the "great debate" and is a climax of a series of bitter articles concerning a new approach to teacher education labeled "course credit teacher education" (CCTE). Traditional teacher education (formerly called PBTE, then CBTE, and recently mastery-based teacher education MBTE) has been firmly entrenched for the past 40 to 50 years. Comments concerning "traditional" teacher education refer to this established competency approach.

The supporter of the new approach, Dr. O. F. Course, is a fairly young but experienced professor from a western university. The opponent, Dr. E. N. Trenched, is also a professor but he is not far from retirement and is teaching at an established eastern college. He is very highly regarded in the profession and he appears to exude sophistication with perhaps even a touch of arrogance, although not intentional.

A large audience has assembled and has literally packed the grand auditorium. From the various conversations among those in the audience it is apparent that they are there for a variety of reasons. There are the curiosity seekers, who know very little about the new course approach and hence view it very suspiciously. There are those who have built their own image of CCTE but actually misunderstand it and view it (or their perception of it) with amusement. There are those who have picked up only fragments of it and are very angry. They have come to see Dr. E. N. Trenched "unfrock" this upstart program and reveal its inherent weaknesses. There are others, a small number, who just want to know more about it, and an even smaller number who are genuinely interested.

We pick up the debate just as the opening barb is administered.

Dr. E. N. Trenched: Let me be sure I understand what CCTE is. Incidently, last month I thought it was called subject-based teacher education and the month before that title-based. I wish you could at least come to some agreement on what to call it.

Dr. O. F. Course: Before you go on let me clarify that. These terms are generally used synonomously, but course-credit teacher education (CCTE) is a more generic label and is now preferred.

Dr. E. N. Trenched: Very well, as you like. Now, this business about what it is. What you are proposing is to structure your teacher education program on a series of broad areas or titles which you will call "courses," and each course must be completed within its own predetermined period of time.

Dr. O. F. Course: Yes, that is reasonably close, with one exception. Each course does not have its own time period, all courses are assigned the same period of time, usually a semester.

Dr. E. N. Trenched: Do you mean to tell me that you are assuming all objectives can be achieved in the same amount of time?

Dr. O. F. Course: We don't have specific objectives so I can't really answer that. We provide course descriptions which are goals for that course. Each professor then teaches what he wants in the time available. It simply makes sense that each professor teach what he knows best. The goals are purposely vague so the student has a chance to explore.

Dr. E. N. Trenched: Well then on what criteria is the student evaluated?

Dr. O. F. Course: Oh, I have very specific criteria which I use in grading exams and papers.

Dr. E. N. Trenched: Why don't you make these available to students and base your courses on these?

Dr. O. F. Course: I would be very concerned about "teaching to the test."

Dr. E. N. Trenched: By that do you mean teaching to the objectives or the specific test questions?

Dr. O. F. Course: I mean the objectives.

Dr. E. N. Trenched: What's wrong with that?

Dr. O. F. Course: Every student has his own goals and must be allowed to pursue them.

Dr. E. N. Trenched: But they are all nevertheless tested on the same criteria? You approach the problem by just not stating objectives yet testing everyone on the same hidden criteria. I am confused.

Dr. O. F. Course: Well, you must admit that we have much to learn about which teacher competencies relate to student outcomes, although we have made significant progress in the past 50 years.

Dr. E. N. Trenched: I suppose that's true, but I don't see how you will ever find out anything about this relationship in your system. How would you respond to the recent report from the Cranford Research Insitute of Cranford University, which states that "the lack of research regarding the relationship between courses and pupil outcomes is CCTE's greatest problem."

[the crowd buzzes]

Dr. O. F. Course: If we don't get a chance to try our program, how can we test its effectiveness?

Dr. E. N. Trenched: I still say if you don't have objectives and competencies stated I don't know how you'll ever find out what works and what doesn't.

Dr. O. F. Course: And I still maintain that we must have the opportunity to try it. In the BM* days this would have been possible. In fact, traditional competency-based programs never would have existed without opportunities for experimental programs. The mandate from the state has removed that possibility. And don't give me that argument about being regenerative and hence constantly revising and meeting needs, even if it means program structure changes.

Dr. E. N. Trenched: I was about to do precisely that. However, you do have a point about opportunity to experiment. Let me pursue this course business again. How does each professor know what is being taught in the other's course, isn't there a great deal of overlap and gaps? Doesn't this produce an inefficient system?

Dr. O. F. Course: Quite to the contrary, course descriptions are sufficient to prevent this, and our course programs can be much more efficient. We have devised a very clever means to cut costs. You see, we have eliminated modules and all the superfluous support materials. We also no longer have need for intricate management or support systems since each professor requires a textbook and lectures, and we don't keep track of every individual. We find it much cheaper to bring together large groups of students to hear lectures. This lecture concept was one of our better moves.

Dr. E. N. Trenched: Of course we have lectures but only as options. The significance of your statement, however, is that you herd students into large rooms and pack them in like sardines,

[the audience begins to feel uncomfortable]

or robots, for most of your teaching and with no options. You do not provide for individual differences, and you foster sameness. I can only conclude that this is dehumanizing and mechanistic!

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*By the early 1980's, all 50 states had mandated competency-based programs. BM refers to Before Mandate, and all teacher education academic calenders are based on this significant event. Opponents of the competency approach have implied that a BM refers to the product of the programs. This has generated some antagonism.

Dr. O. F. Course: Not so, not so!

Dr. E. N. Trenched: I suppose the next thing is you'll have State Education Departments jumping on the bandwagon.

[crowd grows angry, buzzing changes to hiss]

Dr. O. F. Course: Oh, "poisoning the well" with the bandwagon syndrome eh!

Dr. E. N. Trenched: Explain that, if you will.

Dr. O. F. Course: Every time a new idea comes around those who subscribe to it are accused of jumping on the bandwagon. This causes others to be reluctant because they don't want to be accused of jumping on a bandwagon. It's a neat ploy that was used effectively back in the early 1970's.

Incidentally, the other ploy frequently used is that whenever an option is finally proposed, the response is "let's look at all the options," as if there are a large number of options that have been sitting around waiting to be unveiled. Where have these options been for the past 50 years? As options are developed let's pursue them, but in the meantime let's not subscribe to the holding action of waiting for all the ships to come in. I have a slogan of my own: "CCTE is better, but it's just not easier to tell."

Dr. E. N. Trenched: Yes, of course, whatever you say. You know, many people are saying that CCTE is just putting old wine in new bottles, but I think they are giving you more credit than is due. Also, your preoccupation with costs concerns me. Sacrificing quality and everything else seems to be infecting the country.

Dr. O. F. Course: There is more to it than costs. We want the professors back in the colleges and universities and not in the schools, we hope to build tower classrooms, perhaps covered with ivy, for efficiency and esthetic effects.

Dr. E. N. Trenched: I couldn't have said it better myself.

[a titter throughout the audience]

I have two other important concerns. First, our traditional competency programs focus on two related themes: context-building, which provides the teacher with a theoretical foundation so that he may interpret situations appropriately (transfer of learning); and the requisite skills so that once the situation has been interpreted and a technique selected, the teacher has the ability to employ the technique effectively. A second concern is the affective domain. This is one of the most critical areas in teacher preparation, and our programs currently approach this by identifying the appropriate areas and then determining the specific human skills necessary to deal with these areas. How do you propose to deal with it?

Dr. O. F. Course: In reference to your first question, we recognize the importance of interpretive context-building and offer a course in theory. The application of the theory receives significantly less attention. As for your second question, we find it to be such a difficult area that we don't try to determine what it takes to be "affective" (pardon the pun) in the classroom. Some of our course titles, however, reflect a concern for developing better adjusted individuals with knowledge in areas such as psychology and other social sciences.

Dr. E. N. Trenched: What evidence do you accept that the teacher has skill in this area?

Dr. O. F. Course: Well, he must pass the course by paper and pencil examination. Then too, there is student teaching much later.

Dr. E. N. Trenched: I almost forgot, where in your program is the analysis of the teaching act and a synthesis or integration into a unique style built on basic skills?

Dr. O. F. Course: We don't analyze it, we believe through enough theory and pictures of the "Gestalt" a style will develop.

Dr. E. N. Trenched: It seems to me such an imitator would go through the process in a mindless way with no purpose to specific actions. We have seen this happen with student teachers following their cooperating teachers. We agree with the need for understanding the process as a whole, but certainly the functions of the parts are also important to understand. But no matter, the real test will be in the classroom.

* * * *

The debate has now been concluded and the crowd begins to push its way out, with occasional debates between individuals in the audience springing up. This is a date to remember; teacher education has embarked on a new fetishism.

CHAPTER IV

A CRITICAL ISSUE

THE NATURE OF AND ALTERNATIVES FOR TEACHER COMPETENCY STATEMENTS

AND

IMPLICATIONS FOR ASSESSMENT TECHNIQUES

TABLE OF CONTENTS

Page

Competency Domains 181

Competency Forms 184

Assessment Factors 185

Knowledge Assessment 192

Teacher Outputs 195

Performance Assessment 196

Affective Assessment 210

Product Assessment 214

Experiences Assessment 219

Summary 219

Epilogue 222

References 223

THE NATURE OF AND ALTERNATIVES FOR TEACHER COMPETENCY STATEMENTS AND IMPLICATIONS FOR ASSESSMENT TECHNIQUES

Competency-based teacher education is perhaps the most frequently discussed topic in education today. Close to 500 teacher education institutions (Sherwin, 1973, p. 3) and over 35 states (Roth, 1974) have become involved in either studying or developing such programs. Competency-based teacher education has been defined in various ways but there is general agreement on at least two basic elements. The first essential characteristic is the specification of teacher competencies which form the basis of the entire program. The second is the design of assessment techniques, directly related to the specified competencies, which are necessary in order to determine whether or not a student has achieved the competencies.

Competency Domains

In view of the critical role of these competencies it is important to review the nature of competency statements and their implications for assessment. Competencies have been written in a variety of ways and have been related to various domains or competency areas. The competency domains identified in the literature are knowledge, behaviors, affect, consequences, and experiences. Each of these needs to be examined to determine implications for possible assessment strategies.

Knowledge domain competencies refer to information and cognitive processes necessary for effective instruction and related activities. These include knowledge of: a subject area, planning for instruction, instructional strategies, child growth and development, human relations, etc. Knowledge in these areas deals with facts, processes, theories, and techniques. The scope of the knowledge competencies will depend upon what areas of the teacher education program (content area, liberal arts, professional education) are included in the competency-based program. Examples from various knowledge areas would be an ability to balance chemical equations, write behavioral objectives, identify a variety of instructional techniques, describe Piaget's stages of development, and relate counseling techniques appropriate to given situations (the specificity of these competencies will be discussed in a later section). These are usually evaluated by paper and pencil processes such as those utilized in current traditional teacher education programs.

Some educators have referred to an area of competence which usually is considered as being either in the area of knowledge or performance, and may belong somewhere between the two. These competencies have been identified as "outputs" and are described in the statement which follows:

> Teachers produce a variety of outputs which can be categorized as either Products, Events, or Conditions. Included among these categories of outputs are the following:
>
> A. Products - A product is a tangible, concrete, transportable outcome of work effort.
>
> Instructional units
> Lesson Plans
> Lists of objectives
> Guides, outlines, sets of directions
> Bulletin boards
>
> B. Events - An event represents an instance of occurrence of an observable transaction or set of behaviors.
>
> Class discussion
> Demonstration
> Presentation
> Field Trip
>
> C. Conditions - A condition represents an instance of a desired circumstance expected to endure and to influence a program.
>
> Parent acceptance of school program
> Classroom Climate
> School atmosphere
> Working relationships with other teachers (Morse, Smith, and Thomas, 1972, pp. 11-12)

The behavior domain refers to the performance competencies an individual demonstrates. These are the actual teaching acts considered necessary in order to enable students to learn. The performance of teaching skills is based on the previously acquired knowledge competencies, but requires a demonstration that the student can perform and utilize various strategies and techniques. Examples here include demonstration of a variety of questioning skills, introduction of a lesson, guiding students in discovery activities, etc.

The affective domain has been identified in the literature as the opinions, attitudes, emotions, and dispositions of the teacher. This covers a variety of specific factors such as sensitivity to needs of students, self-acceptance, professionalism, etc. Human relations training labs and interaction laboratories have been established to accomplish these competencies. It is important to note, however, that we may wish to distinguish between affective competencies, such as accepting student feelings, which are expected to be demonstrated in the classroom, and personality variables of the trainee, such as emotional security, which are more difficult to elicit and evaluate.

Consequence domain objectives relate to the influence the teacher has on pupils. In these competencies the criterion considered is the product; i.e., the behaviors or attitude and achievement gains of the pupils being instructed.

The consequence area, however, can be separated into at least two distinct categories, student behaviors and student learning. Student behaviors refer to those activities students engage in which are assumed necessary to attain the educational objectives. Some programs are placing a great deal of emphasis on evaluating this dimension of teacher competence. Examples of student activities include the following:

1) students being supportive and cooperative
2) students being attentive to class activities
3) students participating in verbal interaction
4) students following specific activities to completion
5) students using media and resources for study (Hatfield, 1974, pp. 41,42)

An example of the second type, a pupil achievement consequence objective, is

> Given fifth grade pupils who have not mastered their multiplication facts, the pupils will be able to master all the facts (1-10) X (1-10) and be able to complete them on a paper and pencil test at a rate of 30 per minute. The criterion is 90% accuracy by at least two out of three pupils within four weeks.

Experience or expressive domain objectives have been described as activities an individual engages in which are outcomes in themselves. There are no specified outcomes which are to occur as a result of the experience, the objective is complete once the individual has experienced the activity. An example is "the student will read a story to a kindergarten child--while holding the child on his lap," or "the student will visit the home of each of his pupils (Weber, 1970)."

Competency Forms

There seems to be a variety of viewpoints as to how competencies should be written. One approach is to write them as general statements of behavior with some broadly defined expected level of achievement. An example of this approach is "the teacher is able to use a variety of teaching techniques, selecting those which are appropriate in particular situations." Note that the competency is general enough to cover a number of specific behaviors. Also, the standard of achievement "appropriate" is not very specific and provides for a more subjective evaluation. These are high inference types of competencies.

Merwin (1973), however, argues that PBTE is supposed to differ from current teacher education programs by the explicitness with which the competencies and the criteria used in assessing their mastery are stated. Further, this explicitness should leave little or no ambiguity regarding procedures for assessing the performance nor in arriving at a decision as to whether or not the individual possesses it.

In addition, Morse, _et al_. (1972), believe that evaluation goes beyond measurement of performance. Judgments have to be made in relation to those factors which give meaning to the performance information produced. Central to this judgmental process is a clear delineation of what it is the assessment is to assess.

Pursuing this line of thinking, another approach would be to develop specific performance objectives derived from the competency statement. These specific performance objectives are behaviors which must be demonstrated as evidence that one has attained the generic competency from which they were derived. In this situation, the evaluation focuses on the demonstration of the more specific behaviors and achievement of the competency is determined by whether or not most or all of the specific performances were demonstrated. This is a lower inference type of objective and is somewhat less subjective in nature. An example is

competency:	The teacher trainee is able to use a variety of teaching techniques.
performance objectives:	The teacher trainee will demonstrate ability to give a lecture by stating objectives clearly, using an audible voice, varying the pace, establishing eye contact, and summarizing key points.

> The teacher trainee will demonstrate ability to conduct a group discussion by defining the topic, involving all students, summarizing key points, . . .
>
> The teacher trainee will demonstrate ability to employ oral questioning. . .
>
> The teacher trainee will demonstrate ability to give a demonstration . . . etc.

Competency statements may also be written as behavioral objectives. This is the type of competency statement most frequently believed to be associated with competency-based programs. In this approach, the behavior, mastery level, and conditions are specifically stated, with the criterion levels stated as frequencies, per cent accuracy, or other such measures. In this approach, competency statements can be used directly as assessment criteria. Examples of behavioral objectives are

> Given examples of classroom management techniques (written descriptions or videotaped) the teacher trainee will identify by name at least five of six correctly.
>
> Given a small group of students in a microteaching session the trainee will ask one knowledge, one application, and one synthesis type question as developed in his lesson plan within a twenty-five minute lesson.

In each of the competency domains cited, the form of the competency statement must be examined to determine appropriate assessment techniques needed to evaluate achievement. It should be noted that the assessment strategies are affected by a variety of variables related to competency statements. As each of the competency areas are examined in the following pages, variables such as context and specificity will be considered as they relate to the particular competency domain under discussion.

Assessment Factors

In order to determine implications and problems of assessment of competencies, an analysis of the literature was conducted to determine assessment practices and concerns. Remaining sections of this paper reflect these findings.

There are a number of factors relating to assessment of competencies in general. One such concern is the evaluation context. For example, if the individual is required to demonstrate that he has a particular skill, he might accomplish this by teaching to one or two peers, a small group of students, or an entire class. In each instance, he is demonstrating that he can perform the skill, and each of these alternative contexts may be appropriate.

In some cases, however, the competency may require that the individual not only be able to demonstrate a particular skill, but that he utilize this skill at the appropriate time or at a designated frequency as part of his normal teaching style over a period of time. This requires not only that the individual "can do" but "does do." This type of competency requires the classroom as a context for evaluation, as well as a longer period of time for observation.

The nature of the competency statement clearly has implications for the context required. On the other hand, the context in which assessment takes place has a direct bearing on the nature of the outcomes and the data collected in the assessment process. Context variables need to be considered when evaluating competencies, and some standardization is necessary (when possible) in order to make comparable evaluations.

As an example of this relationship, with particular reference to performance standards, Schalock, et al., (1974) discussed the competency "defining the objectives of instruction." He points out that there is nothing inherent in this competency that is addressed to the quality expected (standard) nor is there any reference to the context in which performance is to take place. Also

> Because of this interdependency of competency descriptor, the context in which competency is to be demonstrated, and the performance standard set for its demonstration, the task of becoming clear as to what the assessment system was to do and how it was to do it was more difficult than anticipated (Schalock, Garrison, and Kersh 1974).

Although the setting of standards is a key element in the design of assessment, it is not an easy task.

> Obviously, there is no source, other than judgment, to which one can refer to select appropriate standards. The question of standards is one which plagues all evaluation efforts. However, the nature of the competency, its relevance to instruction, its suspected impact on classroom learning and other such considerations should be weighed in setting the standard (Airasian, 1974, p. 16).

Some assistance in the criteria selection process is provided in the following statement. It should be noted, however, that this was written in terms of assessing teachers in general rather than assessing specific competencies.

Six Attributes for Discriminating Among Criterion Measures

1) Differentiates among teachers. There are decisions where we do not have enough knowledge merely by knowing that a teacher has met a minimal level of proficiency. Both administrators and researchers, for instance, often encounter situations where they need a measure sensitive enough to assess variance in teachers' skills.

2) Assess learner growth . . . emphasize the necessity to produce criterion measures which can be used to assess the results of instructional process, not merely the process itself. In certain limited instances we may not be interested in the outcomes of instruction as reflected by modifications in the learner, but these would be few in number. Certain classes of criterion measurers are notoriously deficient with respect to this attribute.

3) Yields data uncontaminated by required inferences. An attribute of considerable importance is whether a measure permits the acquisition of data with a minimum of required extrapolation on the part of the user. If all observations are made in such a way that beyond human frailty they have not been forced through a distorting inferential sieve, then the measure is better. A classroom observation system which asked the user to record the raw frequency of teacher questions would possess the attribute more so than a system which asked the user to judge the warmth of teacher questions.

4) Adapts to teachers' goal preferences. A measure of teaching skill will be more useful for given situations if it can adapt to such dissimilarities in goal preferences.

5) Presents equivalent stimulus situations. There are times when we might like to use a measure which would permit the measurement of teaching proficiency when the stimulus situations were identical or at least comparable.

> 6) Contains heuristic data categories. In a sense this final attribute is the reverse of attribute number three above which focused on the collection of data uncontaminated by required inferences. At times we want data that simply state what was seen and heard in the classroom. At other times it would be useful to gather information--interpretations--which illuminate the nature of the instructional tactics. For the unsophisticated individual, in particular, measures which would at least in part organize his perceptions regarding strengths and weaknesses in teaching would in certain situations be most useful (McNeil and Popham, 1973, pp. 238-239).

In selecting assessment procedures the influence of the nature of the competency statement in this process has been stressed. Some general points to consider in designing assessment are:

A. Objective instruments development vs. subjective.
B. Effect of assessment on process.
C. Selection of acceptable indices.
D. Establishing validity and reliability (Baird and Yorke, 1971, p. 5).

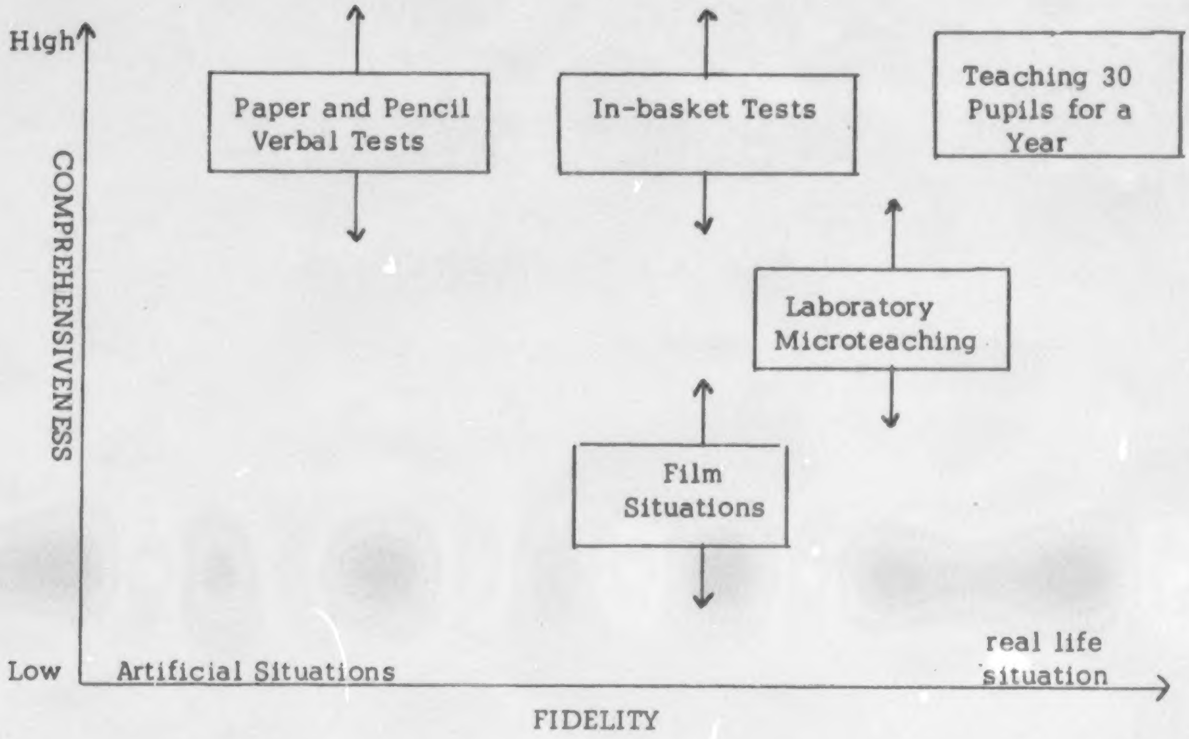
The validity and reliability of measurement instruments are, of course, important considerations. These will be discussed at length in appropriate sections, and therefore only briefly here. The evaluator should decide which of the validations are pertinent to the instrument being used. According to Young (1973) face validity is the most common form, and is concerned with the instrument agreeing with the mode of responding (written or verbal) whether it measures process or product, and the level of responding (memory, conceptualization, etc.). Also, content validity may be estimated by expert ratings of each item, construct validity is estimated by giving the evaluation to a group of persons possessing the trait and to a group not possessing the trait, and predictive validity is determined between levels of evaluations or in different time periods.

Some general recommendations regarding procedures are provided by the following:

> Actual data gathering techniques to evaluate knowledge and practice competencies are not complex. For knowledge competencies paper and pencil tests, oral examinations, and the like are appropriate. For practice competencies, studies of performance in classroom, microteaching, or other similar situations can be evaluated by one, or preferably more, judges on the basis of checklists, or overall performance (Airasian, 1974, p. 17).

> Stimulus and response modes could be specified from a number of available alternatives. Prospective teachers might respond to paper and pencil directions in a videotaped mode--or vice-versa. Films, audiotapes and actual demonstrations are other possibilities. Responses need not be limited to overt teacher behavior as the only teacher "product" but could include products such as lesson plans, teacher-made tests, reports to parent, and other record-keeping and planning outcomes. And of course, one stimulus may produce a series of responses in various modes (Kay, 1974, p. 276).

An overview of some possible techniques has been developed in terms of two criteria, comprehensiveness and fidelity. Fidelity refers to the degree of realism of the test compared to the criterion situation.


High
COMPREHENSIVENESS
Low
Paper and Pencil Verbal Tests
In-basket Tests
Teaching 30 Pupils for a Year
Laboratory Microteaching
Film Situations
Artificial Situations
real life situation
FIDELITY

Fidelity and Comprehensiveness of Different Types of Tests, (Quirk, 1974)

Another general concern, no matter what the competency domain or assessment technique, is that of utility. This asks of each data gathering effort whether the costs of time, money and effort can be justified by the extent to which they reduce risk fordecision makers. According to Merwin (1973) there are two ways to apply this criterion. One is to ask the extent to which the added information provided has reduced risks in selecting among alternatives, and the second involves comparing the costs of this particular means to getting the information with costs in using another means to the same information or equally predictive information highly correlated with it (e.g.,indirect vs. direct assessment).

One means of viewing competencies and their assessment has been developed by Turner and should be mentioned at this point. His six criterion levels for evaluation are as follows:

> Criterion Level 1. At the highest level, the criterion against which teachers (or teaching) might be appraised consists of two parts. The first part is observation of the acts or behaviors in which the teacher engages in the classroom. The observations must be conducted with a set of instruments which permit classification of teacher behaviors in both the cognitive and affective domains. The second part is systematic analysis of the level of outcomes achieved by the teacher with the pupils he teaches. Outcomes in both the cognitive and affective domains must be included. Because of variation in the entry behaviors of students and variations in teaching contexts, the residual outcomes in pupil behavior (the terminal behaviors corrected for entry behaviors and moderating variables) should be used as the criterion measures. To be placed at criterion level 1, the above two-part appraisal of teacher performance must be conducted over a relatively long period of time, probably at least two years (on a time sampling basis), with both the observational and residual pupil behavior components assessed during each of the years. The reason for the two-year period is that both teacher and pupil behavior are open to some random fluctuation and care must be taken to obtain a sufficient sample of behavior from both sources to assure fair conclusions.
>
> Criterion Level 2. This criterion level is identical to criterion level 1 except that a shorter performance period is involved.
>
> Criterion Level 3. This criterion level differs from criterion levels 1 and 2 in that pupil performance data are eliminated from the criterion. Judgments about competence or proficiency are thus based on the observable behaviors of the teacher rather than on the pupil outcomes associated with these behaviors.
>
> Criterion Level 4. This criterion level differs from criterion level 3 in that both the teaching context and the range of teacher behavior observed are restricted. The context might be a typical microteaching context involving a few pupils or even peers acting as students. The teacher behavior observed would be restricted to a few categories in the cognitive or in the affective domain.

> Criterion Level 5. This criterion level differs from criterion level 4 in that the teacher need not perform before live students (simulated students would be satisfactory). He must, however, be able to produce or show in his behavior at least one teaching skill; e.g.,probing.
>
> Criterion Level 6. This level differs from criterion level 5 in that the teacher need not engage in producing a performance, but rather, only show that he understands some behavior, concept, or principle germane to teaching (Turner, 1972, p. 3).

The relationship between these levels and assessment techniques will be identified at appropriate points throughout this paper.

A general overview of this relationship is provided by the following chart:

WHEN	WHAT	HOW
pre-practicum	Level 6--Trainee shows that he understands some behaviors, concepts, or principles germane to teaching--usually in a paper and pencil exercise.	paper and pencil tests; interviews
pre-practicum	Level 5--Trainee demonstrates his possession of teaching "skills", however, he need not do so with students. He may interact with case studies or other simulated materials.	case studies; simulation
pre-practicum	Level 4--Trainee demonstrates teaching behaviors in a micro-teaching context with a few students or peers.	microteaching; interaction analysis
practicum	Level 3--Trainee is judged on the basis of his ability to demonstrate "teaching behaviors" in the classroom.	videotape; observation forms; questioning pupils; interaction analysis
practicum and on the job	Level 2--Short-range outcomes achieved by the trainee with the pupils he teaches.	all tools used to assess public school pupils' growth (including above)

on the job	Level 1--Long-range outcomes achieved by the trainee (now a certified teacher) with the pupils he teaches.	all tools used to assess public school pupils' growth (including above)

(Baird and Yorke, 1971, p. 7)

Knowledge Assessment

Assessment of knowledge competencies generally can be accomplished through paper and pencil testing. This can easily be done in the preservice college classroom requiring very little in the way of special settings, instrumentation, or techniques. In addition, there are other ways of assessing knowledge, such as mediated stimulus-response techniques.

As an example, Okey and Humphreys (1974) suggest audio recordings of classroom discussions used to teach and assess the skill of identifying different types of teacher questions. Also, they suggest videotaping a classroom to teach and assess the ability to use reinforcement.

In another example, Popham (1974, p. 54) suggests alternative assessment approaches for the competency statement "Teachers must be able to both select and generate defensible instructional objectives." One procedure requires teachers to generate a set of measurable objectives, then have these judged by others using criteria of significance, suitability for learners, etc. Also, a teacher could select a specified number of objectives from a larger pool, and these could be judged according to established criteria. Popham further suggests that the teacher could describe, in an exam-type setting, alternative procedures for selecting and generating defensible objectives.

The knowledge category, you may recall, refers to facts, processes, theories, techniques, etc., encompassing a variety of cognitive processes. It has been noted by Dziuban and Esler (1974) that many learning tasks are inherently complex because of the interaction of their components and thus do not lend themselves to being dissected into very small parts. In structuring a laboratory problem, for instance, a student may have wide latitude in formulating hypotheses, structuring experimental procedures, and interpreting data.

Of all the assessment areas, the knowledge area is perhaps the most developed.

> For three-quarters of a century, decision makers of one kind or another have wanted to assess what candidates for teaching positions know. Measurement technology for

> for assessing academic knowledge thus became highly developed. Consequently, we now have widely available tests of knowledge of subject matter and of knowledge about teaching methods. (McDonald, 1974, p. 23)

In spite of this prodigious effort and its advanced status, there are a number of problems to consider, particularly when developing assessment for instructional units in teacher education programs. Since each module or course has its own objectives, existing tests of knowledge may not be applicable.

Also, in a program that has specific objectives and mastery levels, as competency-based programs purportedly do (particularly in the knowledge domain), the assessment is related to the specific objectives. Its purpose is to determine whether an individual has attained mastery of the objective as specified by a criterion level, not how he compares with a group of peers. This requires criterion-referenced testing.

In shifting to criterion-referenced testing, however, one encounters a problem in applying traditional psychometric characteristics of tests. Definitions of these characteristics, such as reliability and validity, involve assumptions not consistent with criterion-referenced tests.

> Many of these definitions involve equality of form and content among items as well as considerations of equivalent item difficulty. These characteristics produce instruments of extreme homogenity and low variance. Additionally, criterion referenced tests derive their meaning from the relationships they describe between the items and predetermined criteria (Dziuban and Esler, 1974, p. 4).

Another previously mentioned problem inherent in competency-based programs is the need to establish mastery levels for each of the competencies. There are several factors to consider in this process. Quirk (1972) states a number of cautions in using criterion scores, indicating they should take into consideration the number of test items per objective, the level of difficulty of these items, and a statement of the minimum performance level. Quirk also cites three factors related to setting cutoff scores to indicate "mastery" including 1) standard error of measurement, 2) the "x-percent correct" phenomenon and 3) the multiple cutoff model. Quirk notes that a test with low reliability would have a very large error of measurement in trying to estimate a score that represents "mastery." In referring to the "x-percent correct" phenomenon, Quirk states that the percent of items that any given candidate answers correctly depends on the content of the items and the difficulty level of the items in the test as well as his personal state during the test. If alternate forms of the test are to be used, the forms need to be equated statistically.

Some consideration has been given to describing a teacher candidate's overall ability by developing a competency profile, with competencies along the horizontal axis and degree of achievement along the vertical axis of a graph. It has been suggested that such an approach would assist employers in identifying better qualified teachers and those with skills which are particularly suited to their schools. This is a type of multiple cutoff or parallel stalk model as referred to by Quirk, and he has expressed some concerns. For example, if a candidate were to perform better on one objective than another, and the two objectives were highly correlated, the reliability of the difference scores would be quite low, even if the reliability of both measures were high. This same concern applies in evaluating the performance of the same candidate on two different objectives, or on the retesting of the same objective.

Also, according to Hills (1971), such scores can be set arbitrarily without adequate evidence on the validity of the variable that is being used for selection, as well as the validity of the available measure.

An additional concern in the area of reliability relates to retesting (this concern was cited earlier). Some competency-based programs are achievement rather than time based. Students progress as they complete competencies only, not by accomplishing as much as they can in a course restricted by time. Students are allowed to be retested until they achieve mastery. Also, for modules, pre and post tests are provided on each objective. Such situations require an examination of the reliability of the difference score. The reliability of this difference score is likely to be quite low.

Another set of considerations relate to behavioral objectives. In citing the long lists and number of behavioral objectives in competency-based programs, Quirk (1974) states the main measurement problem to be the reliability of the individual measures. Dividing the performance of a prospective teacher into finer elements could produce an unsatisfactory reliability figure. Also, according to Dziuban and Esler (1974) practical considerations often dictate testing competencies which are only indirectly related to the true goals of the behavioral objectives. This same discrepancy, however, has long been noted in norm referenced instruments.

Although Quirk has offered several criticisms of criterion-based testing in competency-based programs, disagreement with his arguments are also found in the literature. Cox (1974), for example, argues that many of the traditional measurement principles, such as the standard error of measurement, the reliability of the difference scores, and predictive validity, have been developed for norm-referenced tests and are probably not applicable to criterion-referenced measurement. A number of psychometricians have studied criterion-referenced test reliability (e.g.,Livingston, 1974; Carver, 1974; Hambleton and Novick, 1973) and offered their analysis. According to Haladyna (1974) "each differs, and each suffers from a paucity of empirical studies either confirming or disconfirming the respective approaches."

Teacher Outputs

Previously in this paper teacher outputs were identified as possibly being a unique group of teacher competencies as opposed to being classified under the knowledge or performance category. A rationale for considering this area of teacher competence and its implications for measurement are provided by Morse, Smith,and Thomas (1972). Outputs, as they define them, represent primary, observable dimensions of teacher productivity, and serve as a bridge for connecting teacher behavior with learner outcomes.

> As a result of the performance of tasks various outputs will be produced. The outputs teachers produce are achievements for which they can be held directly accountable. They are defined as the sole means by which teachers perform their responsibilities toward learners. Teachers can control the outputs they produce, they can also predict with varying degrees of accuracy the effects their outputs are likely to have on learners. By distinguishing between teacher outputs and learner outcomes, one can give substance to the technical outcomes of teaching behaviors. This procedure emerges from and is consistent with the position that in order to nurture certain learner outcomes the teacher must do something. The things done include systematically using or developing materials, providing various experiences, and creating various climates or conditions thought to be conducive to learning. To that extent, it is these things; i.e., outputs, for which we can hold teaching behavior responsible or accountable. The teacher's responsibility includes assuring the relevance of those outputs to meeting the individual and collective needs of pupils.

> The kind, quantity, and quality of outputs that teachers produce can be measured. These measures constitute the basic data to be collected in any effort at assessing competence. The eventual linking of this data to data gathered about learner outcomes should provide a rich base of information from which to draw in making judgments about the competence of teachers (Morse, Smith, andThomas, 1972, p. 11).

Performance Assessment

Teaching behaviors or performances require observation of the individual demonstrating the skill. This may be done by personal observation or use of recording equipment, with or without the utilization of systematic observation scales. Why evaluate teaching performance, why not deal with the ultimate criterion of effectiveness, pupil learning? Much more will be written on this in the section on pupil achievement, however, the following rationale has been noted in the literature.

> Measuring teacher effectiveness by measuring change in pupils is probably only feasible for simpler, lower level objectives.
>
> For the attainment of higher level objectives, or more slowly developing objectives, the more appropriate procedure appears to be to measure the behavior of the teacher and compare it to behavior which is thought to be related to the development of higher level objectives in pupils. Such a procedure appears feasible, both for the assessment of competence of individual teachers and for the certification of programs (Soar, 1973, p. 210).
>
> Similarly, the teacher appears to be more fairly evaluated if the judgment is made on what he does, rather than on the outcome of what he does. The first is under his control and the second is not (or at least not nearly so much so) (Soar, 1973, p. 209).

In reference to Turner's criteria, Merwin (1973, p. 12) notes that Turner's lower criterion levels involve assessing teaching behavior which is supposed to bring about a desired change in pupil behavior. He argues, however, that such a substitution can only be justified on the basis of a demonstrated reliable relationship between the assessed teacher behavior and change in pupil behavior that would be measured using the direct assessment approach. Currently, both traditional and competency-based programs must operate without such validation.

Some general concerns related to assessment of teacher performance have been identified by Merwin. He cites 1) error due to a lack of comparability in conditions under which the measure is taken; 2) errors in observing and recording behavior; and 3) inaccuracies in the matching of the observed behavior against the criterion behavior in attempting to arrive at the yes-no decision regarding achievement of competency (Merwin, 1973, p. 10).

As noted in the introductory pages, the selection of evaluation techniques depends partially upon the specificity of the competency. Examples of teacher competencies in the performance area may be useful at this point to illustrate some of the problems encountered due to level of specificity. The following examples were derived from The Florida Catalog of Teacher Competencies (Dodl, 1973).

1) Identify a student's instructional needs on basis of errors.
2) Involve students in teacher-pupil planning.
3) Structure opportunities to develop health and safety habits.
4) Help students develop attitudes compatible with society and self.
5) Cause student to perceive relevance of learning.
6) Use variety of media in course of teaching lesson or unit.

Merwin has analyzed these competencies and provided the following concerns.

> In the first example, "Identify a student's instructional needs on basis of errors," one assessor might well accept a simple oral questioning procedure while another might consider only careful classification of errors established on a theory of development as adequate. As evidence of "involving students in teacher-pupil planning" (example number 2) one judge might accept allowing students to say what they want to do, while another may feel that the observation is not complete until completion of what is jointly planned. The complexities, and alternative procedures that might be involved in

> determining whether a teacher has "caused" a student to perceive relevance of learning (example number 5) are almost unlimited. Whether what is needed to make these competency statements functional for directing measurement efforts is greater explicitness in the behavior to be observed, the need for adding criteria of acceptance, or both, it must be recognized that they do not provide an adequate base for designing assessments as they stand (Merwin, 1973, pp. 12,13).
>
> Even without the criteria statements needed to judge the adequacy of explicitness for unambiguously directing development of the measurement procedures to be used, a number of aspects of these statements pose assessment problems. For example, there are bound to be difficulties in designing procedures to determine the amount of "help" provided by a teacher in attempting to demonstrate his competency to help students develop attitudes compatible with society and self (number 4). The variety of media available and practical will vary widely from situation to situation in assessing a teacher's competency to use a variety of media (number 6) (Merwin, 1973, pp. 8,9).

The tenuous nature of criterion levels was examined in the preceding knowledge domain section, and these concerns apply to performance levels. Also cited earlier as a factor in the evaluation of teaching performance is the context called for in the competency statement. As one reads the above comments it is important to note that many of the concerns have relevance only within the context of an unstructured or uncontrolled (experimentally) environment such as a normal classroom. A very different context is provided by simulation situations where variables are controlled and the context is somewhat structured. This situation is analogous to Turner's levels four and five.

> Working under limited simulation procedures to assess teacher behavior during interaction with pupils as called for at level four allows more control of conditions, permitting greater objectivity and focus of observation of teacher performance at a cost of some realism. Level five simply provides further control of factors affecting the assessment of teacher performance at the cost of possibly a crucial element, use of live students (Merwin, 1973, pp. 16,17).

In discussing performance assessment, a number of references to context have been made in the literature. Morse, Smith, and Thomas (1972) state that the nature of the context; i.e., the people who make decisions, the setting and the role being assumed, plays a crucial part in determining the way in which an individual will be judged as to competence. How the competency is defined, the focus of investigation, the criteria and standards are all said to be a function of the context in which assessment is to take place.

Okey and Humphreys (1974) point out that performance outcomes are the doing skills of teaching, many of which require a classroom setting while they are learned and assessed. Furthermore, Garrison (1974) relates that, in his experience, in a program that defines competency in terms of the performance of teaching functions in an ongoing school setting the identification of the contexts in which competencies are to be demonstrated becomes as critical as the identification of the competencies themselves.

In addition to the context elements, referred to above, Merwin (1973) points to two other concerns related to context and performance assessment; namely, 1) the content under study and method of teaching, and 2) the background relative to the topic under study that the pupils bring to the learning experience. This latter concern as to the background of the pupils assumes that the task of the teacher will be different if the children are relatively homogeneous with few deficiencies, as opposed to a heterogeneous group of pupils, some having considerable deficiencies. Also the personal characteristics and attitudes toward school and learning of the pupils should be considered when evaluating the performance of the individual teacher.

Howell (1971) mentions a two-fold problem in terms of gathering data in evaluating performance. All factors likely to have major effects on the learning in question need to be described, as well as possible extraneous influences on pupil performance from which the data are obtained.

> The known sources of possible contamination can often be dealt with in designing the evaluation procedures, and unknown ones can be countered by sampling teaching performance generously and averaging results over a number of occasions or over many learners. But this may be expensive. The sample size, the sampling procedures, control over pupil situational variables to assure comparable conditions for the pre and post-learning performances, and recognition of interventions other than teaching--all are problems of the validity of the data, which are quite distinct from problems of the validity of the theoretical constructs or of the teaching purposes. . .(Howell, 1971, p. 21).

One competency-based teacher education program has described its approach to assessment which accounts for context.

> The approach taken to the measurement of individual teaching competencies was one of obtaining carefully delimited professional judgments, in the form of rating scale placements, as to the adequacy of a student's performance in a particular demonstration context. At least two separate professional judgments were obtained in relation to each competency demonstration, one from a student's college supervisor and one from his school supervisor. An evaluative judgment was also obtained from a content specialist if a student requested it. The ratings were designed so as to accommodate the impact of setting differences on competency demonstration (Garrison, 1974, pp. 65-66).

Merwin (1973) has cited several concerns related to assessing performance including difficulties in obtaining objective and reproducible observations, sampling problems involving elements of time, environmental factors surrounding the performance under observation, and characteristics of both the pupils and the type of learning involved.

Baird and Yorke have focused on problems of selecting context and the timing of assessment such as

> A. One setting, one time vs. many settings, many times.
> B. Early (in the day, week, semester, etc.) vs. late.
> C. Before (diagnostic) during (formative), or after (summative) instruction (Baird and York, 1971, p. 5).

The predictive validity of performance assessment, particularly in student teaching or similar type situations, is also a problem because the prediction of individual differences for future performance could be unreliable due to the limited range of performance observed. Yet it has been noted that

> ...what the student teacher does under a specific set of circumstances at a given point of time is of less concern than what the performance tells us about future performance--the validity of the assessment of predicting future effectiveness in helping pupils learn (Merwin, 1973, p. 22).

A note of caution, however, has also been provided. McDonald cautions that:

> We cannot treat teaching as if it were so different on each separate occasion that we can never evaluate it. The conflict between establishing reasonable expectations for teaching performance and the variety and complexity of the situations in which teaching occurs is one of the most important problems we have to solve. Until it is solved, our decisions about competence must necessarily be tentative (McDonald, 1974, p. 22).

A similar (or even synonymous) concern relates to sampling, and the relationship of an individual's performance at a given point in time to his actual ability to demonstrate a skill should he so choose. This relationship between "performance" and "competence" is, in a sense, a predictive validity issue affected by adequacies in sampling. Several writers have expressed concern over this issue;

> A major matter of concern revolves around sampling which will permit defensible generalizations (Merwin, 1973, p. 10).
>
> The extent to which evidence gathering situations permit students to manifest the behaviors inherent in the competencies is the extent which the evaluation is valid...Any testing situation provides only a sample of a student's behavior (Airasian, 1974, p. 17).
>
> A difficult problem associated with monitoring the activities assigned in a classroom is that of sampling. The drawing of reliable samples, of course, is a difficult problem regardless of the observational system that is being employed (Raths, 1973, pp. 20-22).
>
> There is the related problem of sampling. Does the absence of an item from a person's speech mean that he cannot produce it or merely that he has not found it necessary to produce it (Dill, 1974, p. 9).

Imbedded in this issue is the question of performance versus competence. Dill (1974) argues that teaching competence is not to be confused with teaching performance. Teaching performance is what the teacher actually does, and is based on knowledge of the instructional content and pedagogy as well as other factors such as memory, non-pedagogical knowledge and beliefs, distractions, fatigue, etc. In studying actual teaching performance one must consider a variety of factors and the underlying competence of the teacher is only one factor.

In the following comment teaching competence is viewed as only being observable in a very controlled situation where context variables have little influence. It should be noted again, however, that this assumes evaluation of "competence" as opposed to a specific "competency."

Evaluation of a teacher's competence in a student teaching situation requires accounting for a variety of factors, whereas evaluation of a specific competency in a microteaching session is less complicated and "performance" is more directly related to a competency.

> Only under idealized conditions can teaching behavior be taken to be a direct reflection of teaching competence. In actual fact, teaching performance cannot ever directly

> reflect teaching competence. Observation of actual teaching behavior will show numerous false starts, deviations from plans, etc. Teaching competence, then is concerned with an ideal teacher, in a completely adequate classroom, who knows the pedagogy and content perfectly, and is unaffected by classroom conditions of crowding, inattention, distractions, etc. (Dill, 1974, pp. 29-30).

Howell (1971) has also distinguished between teaching competence, teaching competencies, and teaching performance in the following manner:

> 1) Teaching competence, as such, is not directly observable but is generally regarded as a more or less enduring personal characteristic;
>
> 2) A specific teaching competency, too, is presumed to be persistent and hence applicable to a whole series of situations within the limitations of its definition;
>
> 3) A teaching performance, however, is the observable manifestation of teaching competence, or competency, and is bound by time and place and other general situational variables, which define its setting or context (Howell, 1971, pp. 4-6).

Perhaps the most widely used method of assessing teacher performance is subjective rating, where an observer evaluates the teacher or trainee on the basis of his own criteria and interpretation of the situation. Problems with ratings again focus with the observer. Popham (1974) suggests that the difficulty may be due to different notions that raters (administrators, peers, students, etc.) have regarding what constitutes good teaching. Quirk (1972) suggests that one method used to avoid this problem, or at least modify it, is to train raters carefully on the definition of the items, show the raters examples of teacher behavior for each item, and check for the reliability of the ratings using actual classroom situations.

Another method of assessing teaching performance skills that has received considerable attention is the use of systematic observation techniques. Two systems are used to record behaviors, sign systems and category systems. The sign system uses a large number of behaviorally defined variables which are checked if they occur during a short; e.g., five minute, observation period. Category systems deal with fewer variables (categories) and are recorded continuously.

Many of the problems cited for teacher rating methods are eliminated or vitiated through the use of systematic observation instruments. By using systematic observation, the observer is made a recorder, insofar as possible, rather than an evaluator (Soar, 1973). Also, according to Soar, this data tends to be "low inference" rather than "high inference" and stays closer to the original behavior. (It may be noted here, that although low inference measures stay with the behavior observed, higher inference measures appear to correlate better with some indices of student achievement; e.g., Rosenshine and Furst, 1971) This relates to the earlier discussion on the specificity of competency statements. Systematic observation techniques illustrate how general (broad) competency statements can be clarified by describing these in terms of several specific items. This appears to have several desirable effects when considering assessment. Some of these have been described by McNeil and Popham (1973). For example, instruments which require less inference from the observer have a greater agreement among users. Reliability is also enhanced when the dimensions are clearly defined and observers have had training, there is agreement on what is to be coded and there are fewer things for the observer to do during observation.

It is of interest to note

> Recent studies using ratings of intermediate levels of inference, such as "clarity" and "enthusiasm have produced more promising results than the earlier high inference ratings. However, before these results can be used maximally, the low inference behaviors which enter the ratings need to be identified (Soar, 1973, p. 208).

Merwin (1973) emphasizes that observation schedules must focus attention of the rater specifically on those aspects of performance relevant to the competency under judgment. Also, procedures for comparing the recorded behavior with the standards set for the competency must be clear and unambiguous. The degree of explicitness of the competency will be a large determiner of success in this process.

Although systematic observation techniques appear to have an advantage over rating systems, there are several factors to consider when utilizing such techniques. Reliability and validity are among these factors and have been treated in several ways in the literature. We will first consider validity.

It has been argued (McDonald, 1974; Abramson, 1971, among others) that measurement procedures used in the evaluation of teaching competency must have high validity. That is, there must be a demonstrated relationship between a teaching skill or performance and its effects upon students. However, in a number of studies that have attempted to relate pupil outcomes to classroom interaction variables, little relationship was found between pupil achievement and the observed teacher classroom behavior. According to Abramson (1971) findings of such studies may result from incompatability of the achievement and observation data collected. Pupil achievement is collected on individuals, while observations are group data.

McDonald states, however, that the conclusion should not be drawn that we must defer the development of an evaluation system until all the relevant research has been done. He argues that there is already an abundance of ideas on pertinent teaching competencies which we can begin to measure--a necessary first step, and whose effect on teaching performance can be studied systematically as part of the process of developing evaluation systems (McDonald, 1974, p. 24).

Abramson (1971) considers the validity of observation systems in terms of content, concurrent, and construct validity. He defines these in the following manner:

> 1) Content validity is the degree to which the system provides information that is representative of the population of classroom behaviors that the system is meant to classify . . . It is essential that empirical evidence of the system's content validity be obtained . . .
>
> 2) The concurrent validity of two or more instruments is a function of the agreement between the measurements resulting from the application of these instruments. Typically, a new instrument is shown to be valid if the results obtained from its application are comparable to those obtained from a criterion measure, usually a more established instrument or a measurement with known validity. This validation process using two or more observation systems could also be followed providing the criterion against which the new instruments are to be validated is itself valid.
>
> 3) Construct validity is the degree to which the hypothesized outcomes of the practical application of the theory which gave rise to the instrument are borne out by the results of the appropriate experiments in which it has been used (Abramson, 1971, pp. 5-7).

According to Medley and Mitzel (1963), in order for an observational scale to be valid for measuring behavior, it must provide an accurate record of behaviors which actually occurred scored in such a way that the scores are reliable.

In addition

> The validity of measurements of behavior as the term is used here, depends then, on the fulfillment of three conditions: 1) representative sample of the behaviors to be measured must be observed. 2) An accurate record of the observed behaviors must be obtained. 3) The records must be scored as to faithfully reflect differences in behavior.
>
> The first condition would be fulfilled perfectly if the observed behaviors were a single random sample of the behaviors to be measured. Unfortunately, it is seldom feasible to obtain a random sample in practice, so it is necessary to use nonrandom samples with care to make them at least appear to be representative.
>
> The second condition--accurate record of behavior--and the third--meaningful scoring--are interdependent in the sense of how a record may be scored depends on how it is made. but they must be kept separate using a technique (Medley and Mitzel, 1963, p. 250).

Reliability has received more attention than validity in the literature, and also has been viewed from several perspectives. According to Abramson (1971) the reliability of assessment procedures needs to be established, reliability referring to replicability of the measurement and its underlying construct.

According to Quirk (1972) reliability is the sine qua non of the use of a measurement device. If the reliability of a performance or a judgment is low, the prediction of subsequent performance based on that measurement device is not likely to increase very much above chance level.

Abramson (1971) reviewed some of the literature that dealt with the reliability of observational measurements and concluded that there were essentially two major procedures normally used to establish the reliability of these data: 1) coefficients of observer agreement, and 2) an analysis of variance (ANOVA) technique first proposed and developed by Medley and Mitzel (1963). Most studies, including Flanders', have used the per cent agreement or Scott's (1955) coefficient of agreement between observers as their measure of reliability with fewer studies reporting reliabilities based on the ANOVA technique. According to Abramson, the coefficient of observer agreement and its variations may be thought of as roughly analogous to the test-retest or alternate forms reliability of most standardized tests because it provides a measure of comparability between two or more measurements of samples drawn from a larger population of behaviors. However, the major advantage of the ANOVA technique, according to Abramson, results from its ability to partition the sources of variation inherent in the data into its component parts and thus yield error estimates as well as obtain estimates of true and total variance and calculate reliabilities using the classical definition $r=s^2true/s^2total$. It is thus possible to calculate reliabilities for the entire observation schedule and for the individual items which comprise it. These reliability coefficients and the error estimates for the different sources of variance may be extremely useful during the initial phases of item construction and revision because these data permit comparisons between the variances generated by items, observers, and teachers. Thus, through the ANOVA technique, it is possible to obtain inter-observer reliabilities as well as other useful information (Abramson, 1971, pp. 4-5).

Medley and Mitzel (1963) define reliability as the extent to which the average difference between two measurements independently obtained in the same classroom is smaller than the average difference between two measurements obtained in different classrooms. According to Medley and Mitzel unreliability can result from two measures of the same class differing too much due to the behaviors being unstable, lack of agreement among observers, different items lacking consistency, etc. It may also result from the differences between different classes being too small (Medley and Mitzel, 1963, p. 250).

Medley and Mitzel defined three terms useful in reliability determinations.

1) Reliability-coefficient refers to the correlation to be expected between scores based on observations made by different observers at different times.

2) Coefficient of observer agreement is the correlation between scores based on observations made by different observers at the same time.

3) Stability coefficient is a correlation between scores based on observations made by the same observer at different times.

Using these definitions, the following argument is presented:

> The true score pertains to the typical behavior that would be observed in a classroom over a period of time, only a sample of which is actually observed. Then a coefficient of observer agreement does not tell us how closely an obtained score may be expected to approximate a true score, because the two measures correlated are

> based on a single sample of behavior. The true score pertains also to the actual behavior which occurs, rather than to what some particular observer would see. Therefore, a stability coefficient does not estimate the accuracy of a score either, since it is based on a correlation between observations made by a single observer. The coefficient of observer agreement tells us something about the objectivity of an observational technique: the coefficient of stability tells us something about the consistency of the behavior from time to time. But only the reliability coefficient tells us how accurate our measurements are (Medley and Mitzel, 1963, p. 254).

Further study of reliability is provided by Brown et al.,

> Per cent of agreement between observers tells almost nothing about the accuracy of the scores obtained. It is entirely possible to find observers agreeing 99 per cent in recording behaviors on an instrument whose item or category consistency is very poor. Reliability can be low even though observer agreement is high for several reasons. For example, observers might be able to agree perfectly that a particular teaching practice occurred in a classroom, yet if that same practice occurs equally, or nearly so, in all classrooms, the reliability of that item as a measure of differences between teachers will be zero. Errors arising from variations in behavior from one situation or occasion to another can far outweight errors arising from failure of two observers to agree exactly in their records of the same behavior (Brown, Mendenhall, and Beaver, 1968, p. 4).

Although reliability and validity have received the most attention, there are a number of other concerns related to systematic observation techniques. McDonald (1974) suggests that we must develop information related to the reliability, validity, and the learnability of teaching skills. Also, according to McDonald, the information gathered must be uncontaminated by subjective biases and political processes, and the conditions of measurement must provide comparable information on groups of teachers. That is, the conditions under which teacher behavior is measured, must be standardized.

Flanders, whose work has been most influential in the development and utilization of systematic observation, has pointed out that choosing a particular system of interaction analysis tends to determine how one will conceptualize teaching (Flanders, 1974, p. 313).

Popham (1974) argues that assessment energy should be focused on the desired outcomes in learners, that is, assess the end results directly without encountering the measurement noise associated with the extra assessment step involved in systematic observation. However, the difficulties which are encountered using product criteria will be discussed in a later section.

Other problems identified by Popham (1974) are that

-deleterious factors may cancel out positive teacher behavior, and a manageable system could not pick up all negative process variables,

-observational approaches identify general classroom practices whereas teacher evaluation requires personal and particular decisions, and

-there is considerable danger that many teachers will "fake good."

Flanders has identified needed improvements in this approach to assessment. These are: the need for mathematical models to help guide the conceptualization of interactive phenomena and assist in establishing procedures for analyzing the data, attention to more effective methods of observer training and procedures for estimating the reliability of observation, and the development of multiple coding within a single time frame and analysis of longer chains (Flanders, 1974).

The preceding techniques have primarily been used to assess teaching performance competencies in actual classroom settings. Due to the variety of problems posed by context variables previously described, some assessment procedures have been devised for simulated situations. The reader may recall that the nature of the competency statement also determines whether or not live classrooms are required or if simulation is appropriate. A rationale for such an approach and some characteristics are provided in the following:

> Interaction skills are particularly difficult to measure. Attempts to do so with paper-and-pencil instruments have failed completely, mainly because no one has been able to devise test exercises which call for the kinds of abilities that determine success in face-to-face interactions--the ability to"read" behavior, relate it to professional knowledge, and react almost instantaneously, for instance.

Attempts to measure interaction skills directly--that is, by observing the teacher in action with a class--have been more successful, in the sense that it has been possible to identify some of these skills and to observe performances at various levels of skill. Such attempts must fail as measuring instruments, however, because it will never be possible to secure comparable samples of the behaviors of different teachers from which measurements can be derived. It has been impossible to confront any two teachers with the same problem (or equivalent ones) because no two pupils are alike--much less two classes--and no single pupil or class is the same after an experience as before it.

What is needed is a procedure for simulating the problems a teacher encounters when he interacts with a class, a procedure which can be duplicated over and over so that more than one teacher can be confronted with the identical problem..
One approach that has been suggested and tried with limited success is to use a film or videotape recording of a class to simulate the real one. The strength of this method lies in the realistic stimuli it can present. When one sits or stands before the giant screen at Teaching Research in Oregon, where the Classroom Simulator was developed, and sees and hears the life-size,full color representation of a classroom before him, the approximation to confronting a live class is startlingly close. And when one intervenes--asks a pupil to stop doing something, perhaps--and the pupil responds appropriately, the effect is even more realistic.

Unfortunately, this does not always happen. Sometimes, the pupil's response is not so appropriate. Limitations of the equipment make it possible to offer only three alternative pupil responses per problem; and these three are not always perfectly synchronized. Nor can they include fully appropriate follow-up to all the wide variety of responses teachers might make. And, finally, each problem must be short in duration since only one intervention point can be provided.

Two basic problems confront us when we try to simulate classroom interaction. One has to do with the difficulty in constructing a model which can generate appropriate reactions no matter what the teacher response may be, and when it comes, providing pupil reactions which are lawful and predictable to all these possibilities. The other has to do with the difficulty of providing continuity because the number of alternate stimuli needed increases at a geometric rate each time the teacher responds, and each alternative has to be worked out in advance, filmed, and programmed (Medley, 1969, pp. 4-5).

McDonald has also offered some alternative simulation assessment strategies and is optimistic about their use. One type is a filmed simulation test that portrays a teacher conducting a class. The film is stopped periodically and the viewer is asked to say what he or she would do in this situation; in other parts of the test the viewer is asked to explain what is occurring in the class, and, in some places, he is asked what advice or suggestions he would give to the teacher. Another involves the teacher arranging the subject matter in the form of presentations or questions, and the experimenter responds whenver the teacher asks a question. This gamelike situation does discriminate sharply between deductive and inductive teaching styles (McDonald, 1974, p. 5).

The use of performance tests, such as those used in simulated situations, have also raised several measurement concerns. According to Quirk (1971) compared to the more popular paper-and-pencil multiple-choice tests, performance tests are much more complicated to administer, usually test only one individual at a time, require special training for the observers, are more difficult to score reliably, and are more expensive to administer and to score in terms of personnel time, equipment, and facilities. Test security is also a serious problem (Quirk, 1971, pp. 10-11).

Quirk (1974 , p. 317) also cites what he calls a host of critically important research questions about microteaching tests or other simulated tests. For example, how consistent is the teacher's behavior over time? What is the effect of familiar versus unfamiliar pupils on the behavior of the teacher? What is the effect of pupil practice on the teacher? How is teacher behavior related to pupil learning? What are the correlations between simulated teaching tests and paper-and-pencil tests? So far, he asserts, these questions far outnumber the adequate answers.

Affective Assessment

The affective area is difficult to assess, and this is usually not subject to formal evaluation in teacher education programs. A variety of procedures for developing affective domain competencies, however, have been developed and objectives of these activities have been established. Competencies stated in this area must be evaluated, but due to the nature of the area, competencies may be stated in broad terms and unique kinds of assessment strategies, such as unobtrusive measures and long term data, may be required.

Some general and somewhat "social" concerns voiced by Airasian (1974) include the question as to whom the judgments about a given student's values, personality, interests, and preferences be disseminated, in what form, with what guidelines, and for how long? DeMarte et al. (1975) report that

> Since there are no right answers to emotions, attitudes, or feelings, and because human beings tend to "second guess" experimenters, the accuracy of any affective assessment can be questioned, particularly paper and pencil instruments. Given this state of the art, affective instruments must be used with caution in teacher education (DeMarte et al. 1975, p. 2).

As indicated in the early pages of this paper, some would consider this competency area to have two parts, teacher personality characteristics and teaching behaviors in the affective domain. It is possible, it may be argued, that a teacher can and does demonstrate sensitivity to students' needs, utilize students' ideas, and accept their feelings, and yet does not possess the personality characteristics of warmth, sensitivity, or empathy. He may demonstrate the affective teaching skills because he has been trained to do so and believes it is a good teaching technique. Whether or not this is an acceptable dichotomy is, of course, a moot point, but these two components will nevertheless be examined here.

In terms of personality characteristics, it has been noted by Getzels and Jackson (1963) that very little is known for certain about the nature and measurement of teaching personality, or about the relation between teacher personality and teaching effectiveness.

Some approaches to assessment of personality are described by Sandefur (1970) such as the Minnesota Teacher Attitude Inventory (MTAI), the California F Scale, and the MMPI. The fakeability of such tests has been noted as a potential source of error, particularly when one can readily discern a preferred direction to fake, as on the MTAI.

In measuring noncognitive variables such as attitudes, several researchers have turned to attitude questionnaires, similar to those above. An example of a scale of this type was developed by Bogardus (1925) to measure social distance, or the closeness of the relationship to which the respondent is willing to admit members of designated social groups. Bogardus regarded degree of acceptance in terms of whether or not individuals would accept others: (1) to close kinship by marriage (2) to my club as personal chums, (3) to my street as neighbors, (4) to employment in my occupation of my country, (5) to citizenship in my country, (6) as visitors only to my country, and (7) would exclude from my country. A general tolerance score is obtained by averaging the step values (ranging from one to seven) assigned by the respondent to each of the groups he rated. Stern (1963) analyzed this type of attitude assessment and noted four issues when items are assembled and keyed arbitrarily in accordance with the opinions of the investigator:

1) Are all items relevant to the same measurement continuum?

2) Are the items in fact ordered as steps along that continuum?

3) Is the relative distance between the steps constant?

4) Are the responses actually a function of the attitude the items were intended to sample, rather than of some irrelevant process (Stern, 1963, p. 405).

Assessment of affective teaching competencies is also not very encouraging.

> Unquestionably the state of the art of affective assessment lags behind cognitive or psychomotor assessment. In the end, interpretive judgments based upon both formal and informal observations and discussions will probably provide the optimum means of gathering affective evaluative data about student progress. The lack of objectivity associated with such techniques in comparison to more formal paper-and-pencil techniques should not deter evaluation. One method of stressing the importance of affective aims is to diagnose and evaluate them (Airasian, 1974, pp. 17-18).

Among the devices used for assessment in this area are: systematic observation techniques (previously described) self-response questionnaires, Q-sort techniques, the semantic differential, and rating scales.

In terms of rating scales it has been noted that

> . . . the measuring device is not the paper form but rather the individual rater. Hence a rating scale differs in important respects from other paper-and-pencil devices. In addition to any limitations imposed by the form itself, ratings are limited by the characteristics of the human rater--his inevitably selective perception, memory, and forgetting, his lack of sensitivity to what may be psychologically and socially important, his inaccuracies of observation and, in the case of self-ratings, the well established tendency to put his best foot forward, to perceive himself in a more favorable perspective than others do (Remmers, 1963, p. 329).

Rating scales can be evaluated on the basis of the following criteria

1) Objectivity. Use of the instrument should yeild verifiable, reproducible data not a function of the peculiar characteristics of the rater.

2) Reliability. It should yield the same values, within the limits of allowable error, under the same set of conditions. Since basically, in ratings, the rater and not the record of his response is the instrument, this criterion boils down to the accuracy of observations by the rater.

3) Sensitivity. It should yield as fine as distinctions as are typically made in communicating about the object of investigation.

4) Validity. Its content, in this case the categories in the rating scale, should be relevant to a defined area of investigation and to some relevant behavioral science construct; if possible, the data should be covariant with some other, experimentally independent index. These requirements correspond to the concepts of definitional, construct, concurrent and predictive validity (American Psychological Association, et al., 1954).

5) Utility. It should efficiently yield information relevant to contemporary theoretical and practical issues; i.e., it should not be so cumbersome and laborious as to preclude collection of data at a reasonable rate (Remmers, 1963, p. 330).

Guilford has categorized rating scales into given major groups: graphic, standard, accumulated points, and forced-choice. He also pointed out that any such classification is a very loose one, based on shifting principles (Guilford, 1954, pp. 263-301).

As in the other measurement devices considered in previous sections of this paper, reliability and validity must be considered.

Remmers (1963) states that using reliability statistics for sociometric data may be relatively meaningless and even misleading. For example, in test-retest coefficients there is a problem of distinguishing between effects of memory and those of real change. If there is too short an interval between testing, memory may play an important part in increasing consistency of responses, whereas if the interval is too long, there may be real changes in group structure, thus lowering reliability coefficients.

In terms of validity, there are also fundamental differences between psychometric tests and sociometric tests. That is, in a psychometrically derived test we try to measure some trait by eliciting some related responses. In a sociometric test the behavior is actually sampled. In effect, the predictor is the same as the criterion, as long as we are not interested in drawing inferences from the behavior observed (Remmers, 1963).

Also, there are human bias factors in rating scales. These include such things as 1) opportunity bias due to time sampling problems, 2) experience bias, that is the behavior patterns may differ between those of an experienced teacher and a practice teacher , 3) criterion distortion which is error built into a rating scale by including several correlated behaviors, thus weighing the behavior disproportionately, and 4) rating biases due to various response sets (Brodgen and Taylor, 1950; Remmers, 1963).

The areas of attitude, personality, and affective domain competencies are much more comprehensive than this analysis can provide, but the concerns raised in this section are indicative of the problems involved in assessment of this competency domain. Two references which provide an inventory and analysis of existing instruments are as follows:

> DeMarte, Patrick; Johnson, Donald; Molenkamp, Alice, "Report on the Affective Dimension in Teacher Education," Rochester Area Colleges, Rochester, New York, 1975.
>
> Beatty, Walcott, Improving Educational Assessment and An Inventory of Measures of Affective Behavior, Association for Supervision and Curriculum Development, NEA, Washington, D.C., October 1969.

Product Assessment

Consequence objectives may be the most interesting and controversial of the competencies. These require the teacher trainee to produce changes in students, usually achievement gains. The focus of assessment in this situation is primarily on the students who are being instructed by the teacher. Two different areas of focus include student achievement and the activity a student engages in. An example of the latter is "students being attentive to class activities." Teacher competencies and assessment approaches to this area have been described by Hatfield (1974). He notes that competencies relating to students being attentive in class may include use of designated conference techniques, techniques for controlling disruptive behavior of students, and managing overall activities in the classroom. In evaluating these types of teacher competencies at the performance level, two approaches could be used: 1) to see if the teacher actually used the techniques, and 2) to see if the teacher, in fact, achieves the purposes of the technique. The teacher is evaluated not just for using the technique but on whether the student is actually confronted in a meaningful way and responds to that confrontation (Hatfield, 1974).

Problems related to evaluation of teacher performance described in 1) above are discussed in the section on performance assessment. In 2) the teacher is evaluated on the basis of whether the student "responds to that confrontation," or "if the student actually becomes attentive to the activities." If the determination of this is left to the judgment of the observer, the problems of observation techniques as previously discussed must be considered. These include such factors as "halo effect" and other response sets, reliability of observers, and sampling concerns, among others. If an attempt is made to make the determination more objective, then there is a problem of establishing a criterion level; e.g., how many students must be attentive. It would appear that the more subjective approach utilizing professional judgment is the more viable approach at this time, but is nevertheless not appealing from a measurement point of view.

Medley, Soar, and Soar (1975) believe that assessing teacher competence on the basis of pupil behavior is not appropriate. Among their concerns is one of morality, that one human being's advancement is dependent on the behavior of another (the pupil), which is not and should not be entirely under his/her control.

Evaluating teacher performance utilizing student achievement (as measured by test scores) as the criterion of effectiveness has also received attention in competency-based education programs. Medley, Soar, and Soar (1975), however, contend that evaluation of teaching through evaluation of pupil outcomes is not a viable strategy. Several problems have been cited, and again reference can be made to Turner's criteria.

> Using changes in pupil behavior over a long period (Turner's Level 1) or shorter period (Turner's Level 2) as the measure of performance of a teacher candidate to make the "go-no go" decision on development of a competency poses several complexities in addition to those set forth above. They include the need to state the competency in terms of pupil behavior, assessment in terms of a change in behavior based on a minimum of two observations (before and after intervention by the teacher), observing and recording performance relevant to the teacher competency under consideration, and most problematic of all, accurately identifying the teacher's contribution to the change observed (Merwin, 1973, p. 13).

Airasian (1974) states that the data which must be gathered to evaluate teacher's effects upon student learning are not at all clear. Research indicates that a large portion of the variance in student ability and achievement is attributable to early environmental factors. Also,

> The attribution of causation aspect offers an even greater challenge if the competencies are written in terms of ability to bring about change in pupils, the process must involve separation of those changes attributable to the teacher's efforts from those that cannot be so attributed. Children's learnings are affected by interactions with other children, the

> extent to which their parents are interested and become involved in what they learn, what they see on TV, how the school is organized, the scheduling of their time by others, and a host of other factors. Since these factors will impinge on different pupils in different ways, one can hardly say that one teacher has demonstrated "competency" and another has not simply on the basis of changes in the performance of their two groups of pupils (Merwin, 1973, p. 14).

Okey and Humphreys add that little is known about how to adjust expectations of teacher success when they work with pupils that have different entering abilities, backgrounds, aptitudes, motivation, and learning rates. Differences in subject matter difficulty, instructional materials, and classroom settings may also have important effects on pupil achievement, and therefore, teacher consequence measures (Okey and Humphreys, 1974, p. 8).

According to Flanders (1974) one difficulty with measures of learning is the overemphasis on subject matter achievement. Flanders suggests that using a test of subject matter as the only criterion of learning is inadequate, because student learning includes much more. For example, staying in school and not dropping out, learning to like school and the process of learning, gradually learning how to be more self-directing and independent, learning how to make moral and ethical judgments, etc., may be more important measures of teaching than are scores on content tests. Also, given a focus of subject matter and a research design consisting of pretest, teaching-learning, and posttest, it was found that posttest achievement is much more strongly associated with pretest scores (at least ten times more) than it is with any measure of teaching. This is due to the pretest to posttest gain being mainly a function of ability, and therefore in any assessment of teaching, student ability would have to be controlled more thoroughly. Also, standardized achievement tests are designed to be insensitive to the influence of a particular teacher and reflect, instead, the total developmental background of the student. In summary, Flanders states that conclusions are not really about teaching effectiveness; instead, they are about student effectiveness (Flanders, 1974, p. 312).

At the other end of the spectrum are the measures of pupil outcomes, particularly the criteria used to assess these. Abramson (1971) in discussing product criteria as a measure of teaching performance, points out the problem of the ultimacy of the criteria. For example, does effective teaching reflect gain in immediate factual knowledge, or improved skills of an intermediate nature, or ability to apply these facts and skills, or the more comprehensive "success" in life types of skills (Abramson, 1971, p. 2).

Also, Soar (1973) argues that attempts to measure teacher competence through pupil gain in higher level objectives appears to be exceedingly difficult and probably impossible in many cases. McNeil and Popham (1973) cite technical problems in assessing learner growth such as concerns about the adequacy of measures for assessing a wide range of pupil attitudes and achievement at different educational levels and in diverse subject-matter areas, failure to account for instructional variables that the teacher does not control, and the unreliability in the results of teacher behavior, that is, inconsistent progress of pupils under the same teacher.

Further problems which are related to the analysis and interpretation of learning scores, according to Stake (1973) include: grade-equivalent scores, the "learning calendar," the unreliability of gain scores, and regression effects. Instructional specialists (Hively, Patterson, and Page, 1968), according to Stake, have questioned the appropriateness of grade equivalents or any other "norm referencing" for interpreting items. They object to defining performance primarily by indicating who else performs as well. That is, the items on all standardized tests have been selected on the basis of their ability to discriminate between the more and less sophisticated students rather than to distinguish whether or not a person has mastered his task, indicating successful attainment of the instructional objectives. Grade equivalents are too gross to measure individual short-term learning (Lennon, 1971; Stake, 1973).

In terms of the learning year, there is some basis for miscalculations. For example, winter is a time for most rapid academic advancement, summer the least. Also, there is a common belief that schooling should not aim at terminal performance, but rather at continuing performance in the weeks and months and years that follow.

Concern with the unreliability of gain scores can be viewed in the manner described by Quirk (1972), or by Stake (1973). Consider for example, using a typical standardized achievement test with two parallel forms, A and B, each having a reliability of +.84. Their correlation (that is, the correlation of parallel forms Test A with Test B) in his example was +.81. And, in using a standard formula (Thorndike and Hagen, 1969) the reliability of gain scores (A-B or B-A) would be +.16. Using the raw score and grade equivalent standard deviations from the test's technical manual, assuming 9.5 items and 2.7 years respectively, on the average, a student's raw score would be in error by 2.5 times, his grade equivalent score would be in error by .72 years, and his grade equivalent gain score would be in error by 1.01 years (Stake, 1973, p. 215).

Regression effects ; i.e., initially low scores tend to move up toward the mean while initially high scores tend to drop rather than gain, have also caused some misinterpretation of the effects of instruction. Lord (1963) discussed this universal phenomenon and various ways to set up a proper correction for it.

In spite of these concerns, the evaluation of teacher performance utilizing student achievement as the criterion of effectiveness has received considerable attention in competency-based teacher education programs. One such attempt is the utilization of microteaching and the development of teaching tests. McDonald argues that by stipulating the objective, providing the teaching materials, and controlling the variability of the pupils, the degree of the teacher's skill may be assessed. Also, a teacher's skill can be assessed under a variety of different teaching conditions using microteaching sessions. However, this approach still has several limitations such as relatively short lessons and a small number of students used. Therefore, McDonald and others developed a mini-course format to use for more complex teaching situations. The results of his analyses of these teaching performances indicate that the microteaching performances are relatively poor predictors of the teaching performances in the mini-courses. He concludes, however, that the microteaching is more useful for assessing the degree to which a teacher has basic skills, whereas the mini-course is most useful in assessing how teachers integrate these skills into complex teaching performances.

In discussing student teaching and internship experiences, McDonald suggests that these can be used to assess daily performance under uncontrolled conditions. They are useful for providing information on what teachers are likely to do in contrast to what they are able to do. Also, on-the-job observation can be used to assess such factors as teaching style (McDonald, 1974, p. 24).

In student teaching, some writers (e.g.,Okey and Humphreys, 1974) suggest applying consequence objectives via criterion referencing.

A number of concerns have been directly related to the teaching test approach. For example, teaching performance tests may have insufficient reliability to permit their effective use in teacher evaluation (Glass, 1972). Medley, Soar, and Soar point out that teaching tests can only measure how effective a teacher is in achieving short-term goals, which are the least important goals of education. Also, they point out, stability coefficients (which describe correlations between mean gain scores of two classes taught by the same teacher) are around .3, certainly not acceptable. Milman (1973) suggests that with more reliable measures utilizing more items, collected on larger student groups, after longer instructional sessions, such teaching performance tests will be a more reliable indicator of teaching effectiveness.

In concluding this section, Airasian's comment appears appropriate.

> In sum, while it is always possible to evalute teaching competency by measuring student learning, the issues remaining to be settled before such evaluation can be undertaken in an intelligent manner, fair to both teachers and students, suggests that student learning measures not be used to evaluate individual teachers at present (Airasian, 1974, p. 19).

Experiences Assessment

Expressive objectives have no pre-determined outcomes, they require only the experiencing of certain activities. In this case it may be necessary only to evaluate whether or not one has indeed participated in the experience. A check list of necessary activities is one means of assessing whether or not the individual has participated appropriately. In those cases where observation of the activity does not occur, other kinds of evidence may be required, such as diaries, descriptions, or testimonials that the individual was present. Since this domain requires little data, it is the easiest to "assess" but also yields information of a less rigorous nature.

Summary

Competency-based teacher education has been defined in various ways but there is general agreement on at least two basic elements. The first essential characteristic is the specification of teacher competencies which form the basis of the entire program. The second is the design of assessment techniques directly related to the specified competencies.

Competencies have been written in a variety of ways and have been related to various domains or competency areas. The competency domains identified in the literature are knowledge, behaviors (performance), attitudes, consequences, and experiences. There also seems to be a variety of viewpoints as to how competencies should be written. One approach is to write them as general statements of behavior with some broadly defined expected level of achievement. Another approach is to develop specific performance objectives derived from the competency statement. Competency statements may also be written as behavioral objectives. In each of the competency domains cited the form of the competency statement must be examined to determine appropriate assessment techniques.

There are a number of assessment factors in general which need to be considered in the evaluation of competencies. The nature of the standards, that is, criterion selection, is an essential aspect. Other concerns are comprehensiveness and fidelity of the assessment system, validity and reliability of data, and general utility of the process. In addition, Turner has provided six criterion levels for competency evaluation which provide a framework for identification of assessment areas.

Assessment of knowledge competencies generally can be accomplished through paper-and-pencil testing. Of all the assessment areas the knowledge domain is the most developed. Inherent in this process is criterion-referenced testing. A problem one then encounters is the application of traditional psychometric characteristics of tests. The setting of criterion levels also has many difficulties associated with it.

Teacher outputs were identified as possibly being a unique group of teacher competencies as opposed to being classified under the knowledge or performance categories. Outputs represent primarily observable dimensions of teacher productivity and serve as a bridge for connecting teacher behavior with learner outcomes.

Assessment of teaching behaviors or performances requires observation of the individual demonstrating the skill. This may be accomplished by rating scales or structured observation systems (systematic observation scales). It has been argued that teaching performance rather than pupil learning should be the focus of assessment because measuring teacher effectiveness by measuring change in pupils is probably only possible for simpler lower level objectives. Assessing teacher performance deals only with the lower levels of Turner's criteria. Problems encountered in this competency area relate to establishment of criterion levels, comparability of conditions, and observation errors.

Other elements to be considered in performance assessment are the nature of the content being taught, the background of the pupils being taught, and general effects on learning which may not be accounted for. An extremely important consideration is the context of performance assessment. How the competency is defined, the focus of investigation, and the criteria are all said to be a function of the context in which assessment is to take place. It has also been stated that the identification of the context in which competencies are to be demonstrated becomes as critical as the identification of the competencies themselves. Some competencies may be demonstrated under simulated conditions while others require a classroom setting.

One aspect which received considerable attention is that of sampling, and thus the relationship of an individual's performance at a given point in time to his actual ability to demonstrate a competency should he so choose. The predictive relationship between performance and competence is affected by adequacies in sampling.

Perhaps the most widely used method of assessing teacher performance is subjective rating where an observer evaluates the candidate through observation and possibly through the use of some type of checklist. One method of assessing teacher performance that has received considerable attention is the use of systematic evaluation techniques. The importance of the specificity of the competency statement is evident in the use of systematic observation techniques. The more specific the competency statement, the lower the inference level in arriving at evaluation decisions.

Two important considerations in the use of systematic observation scales are validity and reliability. Content, concurrent, and construct validity are areas which must be accounted for. Reliability has been identified as the essential element in the use of a measurement device, and a variety of reliability perspectives have been described. Coefficients of observer agreement and analysis of variance have been used to determine reliability. Three aspects of reliability are the reliability coefficient, the coefficient of observer agreement, and the stability coefficient. Other problems for consideration are standardized conditions of observations, deleterious effects on teacher behavior, and fakeability under such conditions.

Simulation is one approach that has been suggested and tried in various means. Many extraneous variables are controlled in such situations but there is a concomitant loss of test fidelity, although this is much more realistic than paper-and-pencil testing.

The area of attitudes is difficult to assess and is usually not subject to formal evaluation in teacher education programs. A distinction has been made between personality characteristics and affective competences. Approaches to assessment of personality are primarily projective techniques. Instruments which have been utilized more frequently are the Minnesota Teacher Attitude Inventory, the California F Scale, and the MMPI. The fakeability of such tests has been noted as a potential source of error. Among the devices used for assessment for affective teaching competencies are systematic observation techniques, self response questionnaires, Q-sort techniques, the semantic differential, and rating scales.

A major concern implied throughout the paper is the need to examine the feasibility of assessment of a given domain prior to making a decision as to whether or not competencies should be written for that area and in what form. Although assessment in the attitude domain is faced with a variety of problems, it would be dangerous for a program to exclude competencies in this area because they cannot be readily assessed.

Consequence objectives require the teacher trainee to produce changes in the student, usually achievement gains, although the activity a student engages in is another possible criterion. In evaluating activities students engage in, a number of problems are encountered such as the causal relationship between teacher performance and student activites, observation problems such as halo effect, sampling concerns, and others.

Evaluating teacher performance utilizing student achievement also has a number of serious problems. Some research indicated that a large portion of the variance in student ability and achievement is attributable to early environmental factors. Other concerns are the ultimacy of the criteria, adequacy of measures for assessing pupil gains at different levels, and in different areas, reliability of gain scores, and regression effects. It has been concluded that student learning measures cannot be fairly used to evaluate individual teachers at present.

Expressive objectives do not have pre-determined outcomes, they require only the experiencing of certain activities. Instruments used in this domain include checklists, descriptive reports, anecdotal records, etc. Since this domain requires little data it is the easiest to "assess" but also yields information of a less rigorous nature.

Epilogue

In analyzing assessment problems related to teacher competencies, the author has attempted to synthesize the diverse opinions on a variety of assessment concerns found in the educational literature. There may be some areas of importance, however, which have been omitted or have not been given appropriate depth of treatment. It is also possible that conflicting or alternative viewpoints on certain aspects have not been presented. The author is interested in any information which would clarify or otherwise contribute to this paper, and would welcome readers to send their comments.

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CHAPTER V

MODELS

PLANNING FOR COMPETENCY-BASED
TEACHER EDUCATION AT THE
STATE LEVEL

TABLE OF CONTENTS

Page

Introduction 235

Initiation Action 237

Goal Statement 237

State Role 238

  Issues 238
  Models 245

Certification Pattern Design 259

Delivery System Structure 261

  Preservice. 261
  Inservice 264

Support Mechanisms 266

Regulation Change Specification 277

Management Plan Development 277

References 279

Introduction

The development of a state approach to competency-based teacher education (CBTE) requires careful planning and appropriate resource allocations in order to successfully implement the plan. Some states have moved too quickly without a planned and thorough study of the issues and potential problems and hence were unable to either avoid or deal with these effectively. This has created a great deal of opposition and may lead to the demise of these state efforts before full implementation.

Competency-based teacher education is still relatively new and untested. Any state plan for the development of CBTE should, therefore, provide for successive steps which allow appropriate evaluation prior to implementation of subsequent activities. This would not only provide more data to make informed decisions concerning alternatives, but also tends to alleviate undue criticism thus enhancing the successful implementation of an entire plan. Strong criticism of development procedures could prevent implementation, and it is not until a plan is operational that it will have an opportunity to prove itself or display its inappropriateness.

The purpose of a CBTE plan is to investigate the hypothesis that the identification and assessment of competencies provides an improved system for teacher preparation. The approach appears promising at this time, promising enough to initiate programs, but more information is needed before an evaluation can be made. (For CBTE definitions see "Competency-Based Teacher Education and Certification Definitions: Synthesis and Schema," Robert A. Roth, Michigan Department of Education).

The states currently involved in CBTE have taken a variety of approaches that represent a wide range of philosophies. CBTE can be the basis for the reorganization of the entire teacher education-certification process.

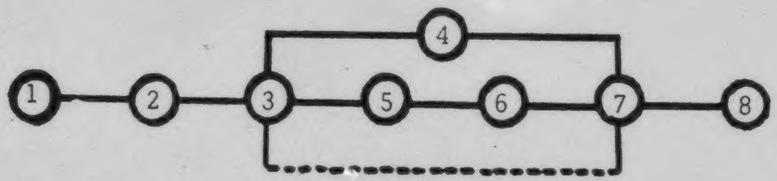
In view of this potential impact, it is necessary in the planning process to begin by examining the approach from a broad perspective. On the other hand, due to the complexity of issues and the need for detailed planning, specific aspects also require study.

A review of the literature and various state approaches revealed eight basic areas which require attention in planning for state implementation of CBTE. The eight areas are as follows:

1. initiation action
2. goal statement formulation
3. state role (centralization-decentralization) identification
4. certification pattern design
5. delivery system structure
6. support mechanism organization
7. regulation changes specification
8. management plan development including evaluation

Some of these areas may be addressed at various points in the sequence, and new directions may be pursued after additional evidence accumulates. Decision-making on some issues may be delayed until further work has been completed, and temporary steps may be taken to facilitate further activity in an attempt to gain a better view of the entire system. The temporary decisions are then either maintained or altered to better suit the needs of the population which is to benefit. Some states may need to make regulation changes in order to proceed. The above eight steps may be rearranged to fit a given situation.

The most likely sequence of these major events is depicted by the following schematic:



(figure 1)

Note that the certification pattern (4) may be designed anytime after a decision on the basic approach (3) has been made but prior to proposals for regulation changes (7). In addition, the basic approach (3) may be altered after information is available from operation of delivery systems and support mechanisms.

This raises an interesting point about the eight areas. They may either be considered as steps in the design of a plan, thereby representing verbal commitments, or as operating stages in the development of a system. It is in the latter case where information is generated from the delivery system and support mechanism to influence changes in the basic approach or state role.

As each of these areas is described, much of the above will acquire more meaning, however, an example at this point may provide some clarification. A state may select a centralized role with the proposed adoption of specific teacher competencies required of all teacher education institutions, together with periodic state assessment of a sample of teacher graduates, independent of the preparing institution. Proposed changes in state regulations would be formulated consistent with this approach. After implementing competency-based programs, however, it may be determined that adoption of generic competencies without independent state assessment would be a more appropriate scheme. The basic approach, in effect, has been altered.

Initiation Action

To begin moving toward CBTE at the state level some initiation action must be taken by a state agency. This may be in terms of a policy adopted by the State Board of Education or the appropriation of funds for program development. Some may go as far as mandating CBTE programs as the initiating action!

Whatever the particular move there must be some official generating force to begin the development of a plan for study or implementation of the competency concept. The source of this action has come from a variety of areas, including legislatures, chief state school officers, and state education agencies. It has been pointed out that legislative action has proved to be the least desirable because generally the specificity of the law results in a lack of options and generates considerable resistance.

Goal Statement

State education personnel with considerable experience in the implementation of CBTE have stated that perhaps the most significant activity a state must undertake is the creation of a mission statement, the goal of the program. The goal statement is conceptually broad, but it provides a reason for developing or exploring the CBTE approach by stating the expected outcomes of the program.

The goal statement also establishes the parameters of the program. It specifies that teacher education is the concern, and perhaps even whether or not liberal arts, general education, or only professional education components are to be dealt with. It clarifies whether teacher education and/or teacher certification are involved, and corresponding to this, if the focus will be preservice and/or inservice efforts. Some states, for example, are developing CBTE at both the preservice and inservice levels, the goal statement must provide for this. It also determines whether teachers, administrators, and pupil services personnel will all be included or just some of these. The goal statement must be broad enough to encompass the entire gamut of proposed outcomes, yet specific enough to define the necessary objectives and limit efforts to only those activities which are pertinent.

Once a goal statement has been developed, it provides for the formulation of more narrowly defined objectives. The objectives are thus more likely to be measurable, provided they are written specifically enough and measures of the expected outcomes are available. The objectives, in turn, provide the basis for the development of the management plan.

State Role

Issues

The role of the state in the implementation of CBTE has been one of the most widely discussed areas and establishes the framework for the entire process. It deals with the degree of state control in terms of centralization of the decision-making process and options provided by the system.

Previously it was mentioned that the competency approach has been used as a vehicle for the reform of the entire teacher education-certification process. The potential impact is therefore significant, and it is thus necessary to view the planning process from a broad perspective. It is at this point in the process where this point becomes strikingly clear.

The distinctions among the various competency-based approaches or models are basically in terms of the issues which underlie them, and to a much lesser extent the manner in which they are implemented. The implementation merely reflects the position taken on the issues, with modifications made in terms of practical concerns. Prior to selecting and elaborating on the models, therefore, it is necessary to identify the essential issues.

Education vs. certification

Initially it may be of value to recognize the traditional distinction between the process of teacher education and that of certification. Basically, teacher education serves a preparatory function, whereas certification selects those who are eligible for employment and provides them with a license. Certification traditionally has been a screening device through establishment of minimum standards, and it has been assumed that the state is the best agency to carry out this function.

It is interesting to note that there has been a great deal more resistance to competency-based certification than to competency-based teacher education. At a conference of the Regional Interstate Project held in Denver in the summer of 1972, the consensus appeared to support this distinction. Sandra Feldman, Assistant to the President of the New York City UFT, stated, "We look favorably on Performance-Based Teacher Education. We oppose, however, a change-over to Performance-Based Certification at this time."[1] David Darland, representing the National Educational Education Association, commented, "to establish one prototype of teacher education as the sole route to legal licensure is pure folly, . . . To base advanced credentialling or renewing certifications on such a singular notion is ever more upsetting." But, "Already some developmental approaches to performance-based teacher education appear promising, if not highly successful."[2]

The difference between certification and teacher education, however, varies significantly depending upon the particular certification model. Since there are many ways in which competency-based certification can be structured, criticisms should be centered around how the issues pertain to a given structure or definition of competency-based certification. For example, if one views certification (particularly the performance type) to include a state testing procedure, then the distinction is clear and the meaning of the skepticism is more apparent. In this paradigm the preparing institutions are responsible for developing competencies in their teacher candidates and the state certifies a candidate's competency by testing him before issuing a license. Many difficulties associated with such a licensing procedure have been pointed out. One can argue, for example, that no empirical base exists on which to construct a valid testing technique, particularly in view of varied teaching contexts. The problem is not the same with competency-based teacher education because there is a diversity of programs and flexibility to constantly develop and change the performance standards. Competency-based certification, it is argued, mandates only one way of teaching, seems more of a finality, and is less responsive to change.

In the approved program approach the distinction between certification and teacher education becomes less clear. The approved program approach is a system in which the state education agency approves teacher education programs on the basis of established criteria. The graduates of these programs are then automatically issued teaching certificates by the state. When utilizing an approved program approach to certification in conjunction with performance-based criteria, as is frequently the case, the distinction may become even more nebulous. Supporting competency-based teacher education then becomes a tenuous position.

It seems that the approved program approach to competency-based certification would be less susceptible to criticism than the state examination approach. In addition, it is the more common certification system currently in use and it provides a certain degree of freedom to explore new directions such as the competency-based model. In view of these factors, the proposed models for competency-based education-certification to follow will mostly be within the context of the approved program approach.

Centralization-decentralization

In selecting a particular model, a number of important issues need to be considered. An essential question is what the role of the state should be in the certification process. There are at least two opposing viewpoints concerning the state's function. On the one hand there are those who see the state as an administrative and regulatory body. "The belief is that the state must improve its guardianship of the public interest by setting ever higher standards and developing more efficient systems of management."[3]

This view of the state's role in certification is the predominant one currently in practice. It is a centralized approach with uniformity and standardization being the emphasis. Even an approved program approach could fit into this scheme if regulations concerning program content are specified. A competency-based certification system structured on the above tenets would specify teacher competencies and performance criteria for certification at the state level.

The opposing extreme viewpoint on certification emphasizes a decentralized system with more local control and a broader base for decision making and social change. In this strategy, "the state must promote change rather than mandate it and accept diversity as more responsive to the state's needs than mandated single standards."[4]

The competency approach could easily fit into this philosophy also be allowing teacher education programs or other professional agencies to develop their own particular sets of competencies. In fact, Ted Andrews, with the New York State Department of Education, has pointed out that in some places the competency movement "has been adopted as an attempt to reform the educational system by changing the focus of authority and thereby the way in which decisions are made."[5] One result of this is that a variety of standards appear, replacing the single set of state standards.

The implementation of a specific viewpoint of a state's role results in a number of ramifications inherent in the particular position. These consequences are, in effect, the underlying issues which impinge upon the decision to select a particular state role and therefore should be carefully considered.

In the centralized view of the state's role a set of competencies and performance criteria would be established at the state level. These standards may be developed by a state agency or through state-wide inputs, the merits of which will be discussed at a later point. This uniform set of state-wide standards can be utilized in an approved program approach.

Curricular freedom

The approved program approach has been evaluated by some educators as being restrictive. It has been pointed out by Lierheimer, former director of teacher education and certification in New York State, that the college's approved program must follow exactly the courses prescribed for state certification. Such a curricular requirement does not provide the freedom which colleges must have if they are also to be held responsible for the qualifications of the teachers they prepare."[6] This statement is made particularly pertinent to a competency-based program by substituting "performance criteria" for "courses" in his comment. Thus, lack of curricular freedom may result from a centralized state role with statewide competencies and performance criteria.

Curricular freedom extends beyond the right to decide on a particular set of courses. The freedom to experiment with innovative curricula also appears to be precluded by a rigid set of state competencies and performance criteria. The right of colleges to experiment becomes an important issue in the selection of a competency-based certification model.

Flexibility and creativity

The project, Improving State Leadership in Education, reported that critics of certification structures in general complain that "The ridigity of state requirements discourages flexibility and creativity in teacher preparation programs."[7] Further, "Ideally, the approved program approach would allow institutions to experiment and develop creative programs of teacher preparation and encourage innovation in teacher education within the framework of generally agreed upon goals."[8] An important part of this last statement is the word "generally." Generally agreed upon goals may still provide the necessary freedom that Lierheimer is concerned about.

It would seem that the centralized view of the state's role with a standard set of specific competencies and performance criteria would be contrary to the intent of the approved program approach. Yet, competency-based certification appears to depend "almost entirely upon an effective system for program approval."[9] An approved program approach without highly specific competencies is an alternative.

Curricular freedom, the right to experiment, flexibility, innovation and creativity in programs are issues related to the state's role that directly affect the teacher preparation institution. Other issues relate to the individual and the restrictions imposed by a specific set of competencies and performance criteria existing as state standards for certification.

Individual freedom

Fred McDonald, with Educational Testing Service, relates that "The specifics of teaching competency will differ markedly depending on how we decide about the freedom each person will begiven to choose the goals and means for his personal development and his life style."[10] At one extreme the teacher's services are sought, requiring social skills, but at the other end he is an expert strategist requiring technical skills. A specific set of state standards may only permit one of these philosophies to prevail, as options may be impractical or even contradictory. Yet, one may argue that without state control contradictory standards could exist.

McDonald also raises a related issue. "Should we not consider whether a teacher has the freedom to define the nature of his service to students? Does he have the freedom to decide what will be required of him?"[11] Decisions on these questions clearly have implications for standardization of competencies and the role of the state.

An overriding concern with the competency approach is that students will be boxed-in, forced to conform to a particular mold. It is argued by some that certification must provide for flexibility in personality, method and philosophy (open classrooms, traditional, etc.). A specific set of standards at the state level does not provide for this flexibility. The decentralized state role does, as it allows diversity in programs, competencies, and performance criteria.

Varied program philosophies

The AACTE, in Evaluative Criteria for Accrediting Teacher Education, A Source Book on Selected Issues, asserts that "there are and should continue to be several philosophies of teacher education."[12] Will a centralized state role and specified competencies preclude varied philosophies of teacher education? Each state must examine its particular structure to determine whether or not this would occur.

Competencies

Several other questions must be considered in relation to the development of a set of competencies at the state level. Can such competencies readily be changed? Can a standard set of competencies by developed to fit all teaching situations, or must a number of sets of criteria be designed? In relation to the affective domain, some educators believe that "the competencies that are easier to describe and to evaluate are likely to dominate. The skills of teaching and the behaviors of a teacher which are difficult to learn and to evaluate often focus on the human aspects of teacher-pupil contacts."[13] Can these competencies be established in the affective domain on a state-wide basis, or are they situation specific and thus call for multiple standards developed at local levels? Will decentralization make the problem any easier to solve?

The arguments suggesting a need for an empirical base for competency-based certification but not teacher education were presented earlier. These arguments pertain to a certification system with a uniform set of standards at the state level, the centralized view of the state's role.

At a recent meeting of the American Federation of Teachers, the following statement was issued in a report.

> If state agencies begin to require the mastery of specific competencies as a prerequisite for certification, two dangers would exist. The first would be that pointed out earlier: non-validated knowledge and skill competencies as well as personal characteristics unrelated to true teaching effectiveness may be required, leading to certification **standards** perhaps even more non-relevant than those now existing. Second, pressure groups may be able to legislate requirements that attempt to define teachers and teacher behaviors into unacceptable patterns. A candidate could be required to fit the mold or not be certified.[14]

Perhaps general guidelines or a variety of standards developed by local groups or institutions would be less susceptible to these dangers. On the other hand, these groups may be just as likely to commit these errors.

In reference to establishing a minimum set of competencies at the state level, Andrews surmises that

> Evaluating the competencies demands a frame of reference, at its heart a set of values: I worry about states establishing value systems, thus the frame of reference must be diversified and most likely localized . . . .
>
> . . . .
>
> Since we have a diverse population with varied philosophies, I believe a state should promote a certification system that expects diversity and challenges all to meet the highest level of accomplishment.[15]

Those who favor a uniform set of quality standards throughout the state, however, would seek the more centralized decision making state role. Inequities among programs would thus be eliminated and employers would be assured that all certified personnel possess at least a minimum set of competencies.

In analyzing the models in terms of the issues, an important question should always remain in sight. In most cases it will not be a matter of whether or not a condition exists, but to what extent it exists. For example, to state that curricular freedom does or does not exist is merely an opinion that does not focus on the issue. The real issue is whether or not there is sufficient curricular freedom to satisfy those involved. Carrying the example to the other extreme, there may be circumstances that permit cirricular freedom (or other conditions) to exist to such an extent that it destroys another essential or desirable element of a certification structure. The models must be scrutinized to determined if conditions are sufficiently provided for, but not overindulged.

Models

A wide range of approaches to the state's role are available to a given state for implementation of CBTE, and the entire spectrum can best be analyzed through a diagram of a continuum of these approaches (figure 2).* At one end we have a very open system with considerable flexibility, whereas at the other end we have a highly structured and centralized approach. Easily identifiable state positions have been labeled on the diagram and will be described in the following pages, but it is important to remember that a continuum implies varying degrees of program types in-between those identified.

Informational model

At one extreme end, the decentralized state role, we find an "informational" model as an approach to CBTE. This system values local decision-making and hence local control with the state playing a more decentralized role. The central theme in this approach is that the state's role is not to make judgments but to maintain records and facilitate decision making on the part of others in the system.

Decentralization is emphasized in this approach with local school teams conducting the evaluation of the competence of potential teachers. The function of the state is to monitor the local evaluation but not impose state standards. Although evaluation systems would be approved by the state there would be no uniform techniques for verification of classroom performance. The state office would maintain a data bank on all teaching personnel in the state.

The local district is provided with the information, and it is at this level where decisions are made as to whether or not the individual's competency fits the particular situation. The underlying assumption is that values and competencies are situation specific and hence require local evaluation. Currently there are no states utilizing this informational model.

Process model

An open-ended approach which requires some type of state approval may be called the "process model." In this system the state does not determine the content of the teacher education program. Competencies and performance criteria are not established at the state level. The

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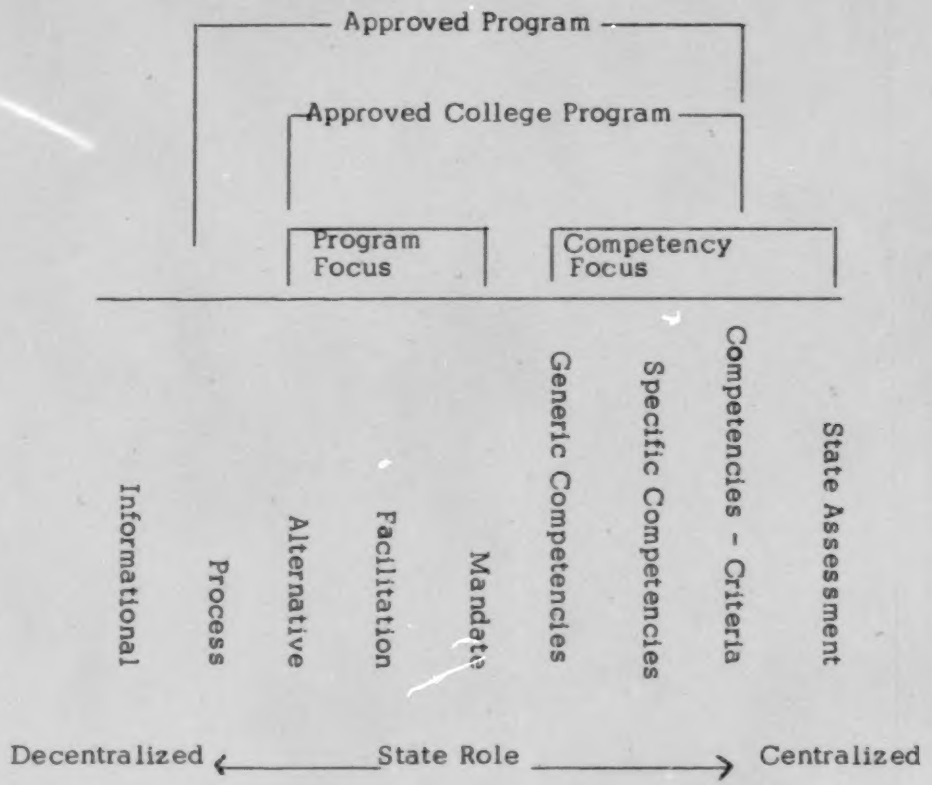
*Ted Andrews with the New York State Department of Education has added the "approved program" and "approved college program" categories to the continuum.

STATE APPRCACHES


Approved Program
Approved College Program
Program Focus
Competency Focus
Informational
Process
Alternative
Facilitation
Mandate
Generic Competencies
Specific Competencies
Competencies - Criteria
State Assessment
Decentralized
State Role
Centralized

(figure 2)

primary role of the state is to define the process for development of teacher education programs, stating who is to be involved and the nature of the involvement. In this model the state again plays a decentralized role with local control and a broader base for decision making.

case studies-process model

Some states are now operating a competency-based certification system consistent with this model. The state of Washington is a primary example and was the first state to adopt competency-based certification, and now has an operational program. A new set of standards for approval of teacher preparation programs became effective in Washington in September 1971.[16] Under these standards, preparation programs are to be developed and implemented by a consortium of agencies. Each agency designates its own representative(s) and clarifies with that (those) representatives(s) his (their) authority in acting in behalf of the agency. The agencies in the consortium are colleges and universities, school organizations and professional associations.

The consortium is charged with describing roles to be assumed by the person to be granted a specific certificate, and to identify and state the rationale for the competencies required of persons who plan to perform the described roles. The certificates will be issued by the state through an approved consortium program. These standards are themselves process and performance standards.

Clearly, this state has moved toward a decentralized structure with more local control, a broader base for decision making, and diversity of standards. Performance standards are more readily changed with feedback, and probably less resistance would be encountered in the state. This model values optimum freedom for the preparing institution in terms of curricular decisions, flexibility, and creativity. In terms of the individual there is the possibility, depending on the program, for freedom to define goals, flexibility in personality, method and philosophy. Reflecting this viewpoint, William Drummond, a former associate in the Washington State Department of Education, urged that "state departments of education, therefore, should foster creativity and intellectual freedom and promote programs of teacher education which support and cherish uniqueness and individualism."[17]

The Washington model, therefore, also rejects the regulatory role of a state department of education. Wendell Allen, as Washington's Assistant Superintendent of Public Instruction, concluded

> To emphasize this regulatory role is to protect the status quo. When the rule is the thing, change must come before there can be a new rule. There is danger in this circumstance that the major energies of the agency will be spent on administrative rather than leadership functions.[18]

An essential point to note is the prevalence of multiple standards, lack of uniformity, less legal need for an empirical base, and no single set of standards. Should all of the above factors be deemed advisable, then a particular state might select this model.

New York has envisioned a very similar type of program. Four process standards have been established to be utilized for the development of pilot projects. The standards require the establishment of a policy board made up of representatives of teachers, school districts, colleges, and teacher education students. This group considers the objectives of the schools involved, the competencies teachers need to be successful in that environment, as well as those qualities desirable for all teachers, and acceptable evidence for attainment of competencies. The policy board then will establish individualized programs for the preparation of teachers to meet these criteria. Note the decentralized role and the belief that performance criteria are mostly situation specific.

Vermont has expanded the decision making base to local school districts. A local school district may develop a program for the inservice training and professional advancement of its staff and may apply to the State Department of Education for approval to recommend issuance and renewal of all certificates at the local level. The appropriate certificate will be issued by the State Department of Education.

The local district must submit evidence that the teachers, school board, and administrative personnel have participated in the planning and development of the program. The local program must include provision for jobdescription, task analysis and performance criteria for all educational personnel. An approved program approach, however, is in effect for preservice teacher preparation programs.

Washington, New York, and Vermont are case studies that fall into the process model. Local decision making characterizes these attempts, assuming what is acceptable in one situation may be unacceptable in another. These states provide examples of a decentralized state role.

Alternative program model

Moving along the continuum the next model identified is the "alternative program" approach which does not require as broad a decision-making base as the process model. In this system the state provides that institutions may develop competency-based teacher education programs. Alternative structures are available to the teacher preparation institutions, but all programs are approved by the state. Many states are operating under this approach, some merely because existing regulations provide for experimental programs. The issues underlying this approach are essentially the same as for the next model.

Facilitation model

A model closely related to the previous approach is the "facilitation model." As in the alternative program model, the institutions are free to select their program structure, and the college approved program approach is utilized. The essential difference is that the state actively supports competency-based programs through a number of facilitating activities. Policy statements, materials, and consultative assistance are examples of such support. The main theme in this approach is to encourage development of programs but to maintain this on a voluntary basis due to the lack of definitive information on program effectiveness.

case study-facilitation model

Florida is currently operating a system consistent with this model and state role. Their program approval regulations are somewhat process in nature indicating prescribed activities, but they are content standards as well, identifying course areas necessary for certification. There are alternatives to the content regulations which provide for competency-based programs. A publication from Florida's Department of Education states

> An institution may, instead, specify the competencies which its graduates will be expected to demonstrate, identify the procedures by which those competencies will be measured, and develop a program which leads to those competencies. Once such a program is approved, its graduates will receive regular teaching certificates with no penalties. Institutions are now being encouraged to develop competency-based programs.[19]

In this model control is in the colleges, but direction is provided by the State. The colleges develop their own competencies but these are consistent with State course requirements. There is additional direction and stimulus provided by the State, however, which facilitates development of such programs. The State is compiling a catalog of teaching competencies which will eventually be validated through research. These competencies, or performance criteria, will be provided to the colleges to facilitate their program development. These particular criteria, however, will not necessarily be mandated and certainly all will not be required of a given institution. Other facilitating procedures by the State are the assembling of training materials based on competencies and staff development for teacher trainers. The emphasis is on facilitation, and decision making is somewhat diffused but the role of the state is stronger than in previous models.

Mandate model

Another closely related approach on the continuum is the "mandate" model. In this case, all of the previous model's components apply, except that the teacher preparation institution must develop competency-based teacher education programs. Some of the options have now been closed, but only in terms of program structure. Implicit in this system is a deep commitment to CBTE and faith in its value.

It is important to note, however, that this model does not represent a closed system. Restrictions have been established in terms of the operational framework of the preparation programs, but a variety of options are open in terms of the nature and types of competencies, the delivery systems, assessment techniques, management procedures, etc.

As one views the efforts by the various states across the country, a general rule appears to emerge. The greater the state mandate, the greater the opposition has been from various groups within the state. When CBTE has been offered as an alternative, less opposition has been generated.

An interesting point that relates to state approval of a competency-based teacher education program whether it is an alternative or mandated approach, is that little has been done to develop accreditation criteria for competency-based programs. Since this approach has a number of unique program components, new standards may have to be defined. If CBTE is mandated, certainly this is an issue to be faced very early in the implementation procedure.

Moving further to the right on the continuum the remaining models might be grouped under a heading of centralized control by the state department although this is not strictly interpreted as such.

Generic competencies model

A general approach to competency-based teacher education-certification is to establish required competencies at the state level. This state-adopted competency approach supports a strong state role and a uniform set of standards. It gurantees that each certificated individual has at least a minimum set of competencies. These criteria could be utilized as a state test or part of an approved program, depending upon which direction is desired. It should be noted that most states are developing performance education by approving programs, not by setting state competencies.

The manner in which these competencies are stated significantly affects the impact they will have on teacher education programs and the role of the state. The competencies can be stated in generic (broad) terms which then serve as guidelines for further specification by teacher preparation institutions. This "generic competencies" model increases centralized authority yet does provide a certain degree of participation on the part of the colleges or consortia.

Earlier a model was described which mandated CBTE programs. It was pointed out that implicit in the model was a commitment to CBTE and faith in its value. The generic model, however, is the first of a series of models which begin to place faith not only in CBTE, but also in a given set of competencies which all teachers are required to possess. This indeed is a greater leap of faith and requires a considerable degree of commitment.

case study-generic competencies model

Pennsylvania has printed Generic Teaching Competencies: An Interim Inventory. It should be noted that in their document the term generic refers to competencies common to teaching in all areas, subjects, and levels. There are, however, broad statements of competence consistent with the definition of generic used here. These competencies serve only as a guide and have not been adopted by the State. Examples are as follows:

a) the teacher will use methods of teaching which are defensible in terms of psychological and social learning theories.

b) the teacher will employ a variety of techniques, materials, and methods which will actively involve each student in the learning situation.

c) the teacher will maintain an educational environment conducive to developing positive attitudes toward learning.[20]

Specific competencies model

Further movement along the continuum reveals a second competency approach but of a more prescriptive nature. The "specific competencies" model has been referred to in the literature as a "prescriptive model." In this system the state provides very specific competencies which are utilized by the colleges or preparation units as program objectives. This is a more dominant state role but still within the approved program approach with an emphasis on the regulatory function of a state education agency. Uniformity in certification with a single set of standards is the essential feature. Some of the Utah standards fall under this category, and New Jersey is working toward such a system.

Several examples of specific competencies can be provided, and it would be informative to continue with one of the areas identified in the Pennsylvania document. A "variety of techniques" can be broken down into specific skills such as able to introduce a lesson, give a lecture, employ oral questioning, use supportive techniques, summarize a lesson, conduct a field trip, or present information with analogies. Each of these would be a specific competency.

Competencies criteria model

A model which at times is indistinguishable from the previous one is characterized not only by state adoption of specific competencies but the criterion levels for these as well. Criterion levels specify the evidence that will be accepted that a competency has been demonstrated. It may be expressed as frequency of occurrence, degree of achievement, or other qualitative indicators. This additional factor again increases the degree of state control and decreases the decision-making power by preparation institutions. This approach has been labeled as the "competencies-criteria" model, and this model together with the specific competencies model can collectively be called prescriptive models.

To clarify this model examples of competencies and criteria consistent with previous examples would be helpful. A key point is to ask what evidence will be accepted that the competency has been demonstrated. One competency and its criteria would be as follows:

> The teacher candidate will demonstrate ability to give a lecture by stating objectives clearly, using an audible voice, varying the pace, establishing eye contact, and summarizing key points.

Variations on the above would be to combine the competency with each criterion, hence writing five distinct competencies. An even more precise statement would indicate the time interval or number of times a skill is to be demonstrated, such as: take attendance within three minutes, or ask three synthesis level questions during a lecture.

case study-specific competencies, competencies criteria models

Utah[21] recently adopted at the state level a set of performance criteria for instructional media, some of which approximate the specific competencies model type of criteria and some of which contain evaluative criteria. Prerequisites to a Basic Media Endorsement are a bachelor's degree and a teaching certificate. An examination for proficiency conducted by a recommending institution (with an approved certification program) is then administered. The recommending institution is free to determine how the competency will be demonstrated or ascertained, but a candidate may request an opportunity to demonstrate a competency whenever he feels he is ready. Competencies may be demonstrated one at a time. Candidates who perform satisfactorily will be considered as having met the endorsement requirement regardless of the route taken to obtain the competency.

Proficiency must be demonstrated in five areas. Some examples of performance standards are as follows:

-Using media selection tools of his choice, the candidate will:

a) Identify the tools he has selected and include a rationale for the choice of each.

-The candidate will explain what one would do to select new subject headings for materials which are not considered in *Sears List of Subject Headings*.

-The candidate will demonstrate proficiency in mounting pictures by producing one acceptable example of the following:

a) Dry mount on a hard surface, using dry mounting tissue
b) Dry mount, using dry mounting cloth
c) Rubber cement mount
d) Laminate with thermo copy machine, adhesive acetate, or heat press

A comparison

The competencies adopted at a state level can be derived in a number of ways, regardless of their degree of specificity. This issue will be discussed shortly. An essential difference, therefore, between the generic model as compared to the prescriptive models (specific competencies and competencies-criteria models) is the level of specificity of the competencies. How does this difference relate to the issues, and how do these models compare with the open end of the continuum in terms of the issues?

In the process model, teacher preparation instututions have maximum curricular freedom. The generic model allows the institutions the opportunity to develop the specific competencies and criteria while the prescriptive models do not provide for this. A comparison of performance criteria with traditional course list standards may be of value at this point. A course in tests and measurement is a familiar requirement in the course list system. The guidelines model would require competencies that are somewhat more specific than a course title, such as ability to evaluate student performance and ability to develop tests. The prescriptive models, however, would list a number of specific performances such as ability to formulate essay (multiple choice, etc.) test items and analyze tests for validity. Also, the evidence accepted that the performance had been achieved may be provided. Continuing our comparison, if used in a course list system a prescriptive model would list the things that should be taught in a tests and measurement course rather than leaving this to the college.

Andrews has stated that "a required set of performance criteria could be just as moribund as rigid course requirements have been in the past."[22] It appears that the more specific the criteria the less freedom that exists. Recall that the approved program approach works within the framework of generally agreed upon goals. The possibilities for creativity through innovative programs can be achieved in the design of means to achieve the objectives, but not through alternative objectives. Two basic questions are at hand. First, is curricular freedom seen as being of value; and second, does a prescribed set of specific competencies significantly limit this freedom? A related question is whether or not the generic model offers a great deal more freedom than the prescriptive models.

A concern similar to the question of freedom is diversity. The process model allows, and even encourages, diversity among programs. Those in favor of diversity argue that there are varied philosophies of education requiring different teaching models. Any set of competencies is based on a theory of teaching and the teaching-learning process. Although not always articulated, the purposes of teaching are inherent in the competencies.

In the process model several teaching philosophies exist simultaneously with validation and development being on-going processes. A set of specific competencies, however, relies on one teaching model and also establishes a particular value system. The problem here is that there is no empirical base to lead us to the correct model. Lack of an empirical base is a primary concern with competency-based certification. With a variety of program types, it can be argued, we recognize the developmental state of our knowledge-base whereas a single model seems a finality and demands empirical validation before being adopted. This accounts for the support of competency-based teacher education instead of certification.

Another point made by those favoring diversity is that competencies are situation specific. There are numerous contexts for teaching, both in terms of environment and educational philosophy. This requires different sets of competencies, at least in terms of the general situations (not for every school, etc.). There may not be enough in common to establish at least a minimum core of competencies at the state level. Washington, Vermont, and New York appear to believe in this as evidenced by their process models.

All of the above factors suggest multiple standards and diversity of programs. The initial question is whether these are valid concerns. The other position argues for more standardization and quality assurance. Inequities among programs are diminished. Certainly, the prescriptive models adhere to the latter viewpoint. The generic model does provide a certain degree of variability in that each institution can define the specific competencies to fit its needs. The prescriptive models insist on a single standard, the generic model offers some degree of multiple standards although not extensively when compared to the process model.

A frequent criticism of competency-based programs is the problem of writing competencies in the affective domain. This problem becomes amplified as we move across the continuum toward the prescriptive models. As an example, the generic model might require competence in developing teacher-student rapport. Each teacher preparation institution would be provided the freedom to determine not only how this might be developed but how it might be judged to exist. The prescriptive models, however, would specify the competencies necessary to achieve this, such as "uses student names," or "smiles or acknowledges student responses by nodding." The question is whether or not such criteria can be written on a statewide level. Ignoring the affective domain and concentrating on the cognitive and psychomotor alone would not be a viable alternative.

The reader may recall the issues raised concerning the rights of the individual as suggested by McDonald. Are there opportunities for flexibility in personality, method, and philosophy? What about the right of the individual to define his own goals. Rackley and Miller representing the Pennsylvania State Department of Education, stated that

> Individual differences are not taken into account in blanket certification standards. We are convinced that the improvement of teacher preparation must take place at the point of initial preparation . . . with attention directed to individual needs within the context of general certification requirements.[23]

The process models provide for individual flexibility and there are functioning programs which operate on these premises. The prescriptive models preclude much of this, at least in terms of the specific competencies required by the state. The individual does not have the freedom to define his own goals, but he may have the opportunity to select his own method of achieving the objectives. Again, those favoring a uniform set of standards would find individual selection of goals to be undesirable and detrimental to certification.

The generic model may provide a certain degree of individual choice but within the boundaries defined at the state level. The general objective must be accomplished, but the specifics can vary with the individual. The manner in which one wishes to develop teacher-student rapport or plan for a lesson can vary significantly from another individual's method. The basic question is not just one of uniform standards versus flexibility, but the degree of each that is desirable.

State assessment model

The final approach identified on the continuum is the "state assessment" model. In this paradigm specific competencies and criteria are established at the state level, but the assessment of an individual's competence is done by the state. There are several ways in which a state testing procedure can be implemented, some of which will be described. A cogent argument against this approach is that there exists no empirical base on which to construct a valid testing technique, particularly in view of varied teaching contexts. The predictive validity of any such examination device would have to be established.

It is again important to consider how the state testing models reflect the various issues and state role. Questions about curricular freedom, individual freedom, and varied teaching philosophies should not be forgotten. The state testing approach to certification offers radically different responses to the issues when compared to the models within the approved program approach.

The informational model can easily be modified to fit a state testing procedure. A set of behaviorally stated competencies could be formulated as certification discriptors. A teacher candidate's degree of accomplishment of each of the criteria could be indicated to form his competence profile. Minimum standards established for certification could be set by the state for each criterion or group of criteria. A system could be established (total score, weighted scores, etc.) to determine the individual's eligibility for certification. The state would still maintain its individual data bank and local districts could use the information for hiring purposes.

An important modification of the informational model is that not only are minimum levels established for certification, but the testing of the candidate to determine his achievement of each criterion is done by the state, not through an approved program approach. The control of standards and verification of accomplishment reside in the hands of the state. This would be similar to an analysis of transcripts in the course list analogy made earlier.

The modified informational model is but one variation of the state testing concept. Any outside agency or group of evaluators could be designated by the state to carry out the testing function. There is an opportunity to involve members of the profession in both development of competencies and criteria and service on evaluating boards or teams who certify individuals. Instead of a profile, verification of minimum competence might be all that is necessary. Differentiated certification could be based on different degrees of accomplishment or even different types of criteria. Evaluating boards or teams could again be used through the entire process.

It is generally assumed that the evaluation for certification would be done in a live classroom situation. An alternative would be to establish testing centers where specific skills would be evaluated such as those found in micro-teaching. This might be particularly useful for initial certification due to the inequities in student teaching situations. Students could also be used in test centers similar to the laboratory schools. This would provide a more controlled situation and fewer variables would enter into the evaluation.

A combination of evaluation in student teaching settings and controlled laboratory situations is also an alternative. This might be built into a system where a recommendation from a preparing institution (college or consortium) in addition to testing in a center would be necessary parts of the process for certification. The variations to this testing approach are too numerous to be included in this discussion.

In the first five models described, up to and including the mandate model, competencies are developed by those involved in preparation programs. The result is a variety of independently derived competencies with little or no state control. Mechanisms and roles in the process of writing these competencies will be discussed under delivery systems.

For those models which propose state adoption of competencies, beginning with the generic model, it is appropriate at this point to raise several questions. The first, and perhaps foremost, is the question of who formulates the competencies. It is frequently pointed out that whoever writes the competencies controls the program, and this indeed is a powerful position.

One feature of many competency-based approaches is the emphasis on parity, a decentralization or sharing in the decision making process. This emphasis has been reflected in the process of writing competencies and their adoption at the state level. Some case studies may clarify this approach.

In New Jersey sixteen statewide task forces have been organized, one for each of the basic certification areas. The objective of each of these task forces is to develop a list of teaching competencies for their area which is to be adopted by the state as part of the certification requirement. Each task force consists of the following types of educators: four classroom teachers (members of professional associations), one department head or supervisor, four college staff members - two from education and two from liberal arts, one state department curriculum specialist, four in general curriculum (school administrators, deans, etc.), one measurement specialist, one director of student teaching, and one college student.

North Carolina has organized ad hoc committees under the State Advisory Council on Teacher Education to develop a comprehensive catalog of competencies and operational guidelines for the various curricula leading to certification. Utah has organized committees of educators to develop competencies for certification areas. Minnesota has also utilized task forces with wide representation to develop competencies in various certification areas. Texas and Arizona also have state level groups working on competencies.

Florida has developed a catalog of competencies by including competencies from every source available, both within and outside the state; however, these are not to be adopted by the State. Pennsylvania mandated that all preservice teacher preparation programs submit a set of competencies for their programs. These lists have been compiled into a booklet of generic competencies, which will be circulated for review and perhaps final adoption by the State.

There are several other issues which apply to state level adoption of competencies. One is the extreme difficulty in getting agreement across the state on a set of competencies. Those involved in developing statewide sets of competencies can attest to this problem. It is significant to note, however, that professional opinion, a content validity, is the only basis that currently exists for justifying a competency since research validation has not been conducted.

A second concern is whether or not a competency can be stated broad enough, yet have meaning, to apply to all teachers and to all situations. With changing roles, variance in local situations, and new research and perceptions of the effective teacher, the required competency approach has been accused of being an inherently irrelevant system.

Each model must be considered carefully in terms of the issues identified. Certainly, there are other issues to be accounted for which were not discussed here. The idea of certification levels will be dealt with later. Another important question is whether or not to use student outcomes as an indication of teaching competence. Arizona and California are exploring this approach. Concerns of a practical nature such as cost, overall feasibility in terms of management, state size, diversity, and available resources are examples of other issues. The questions raised here were more of a philosophical nature and are pertinent to decision making for planning.

The models described were identified as being along a continuum. This implies that there are many other models which can be considered, but they most likely will differ from these models in degree rather than basic type. Perhaps a system can be developed with positive elements from several of the models described here. It may also be possible that more than one model can be in operation at a given time, particularly if one accepts the notion that certain areas require or more readily fit into a state testing approach while all other areas fit one of the approved program models. The overriding concern is which model or models best serve the purposes of teacher education and certification.

Certification Pattern Design

Various certification patterns exist and have been related to or modified to accomodate the competency approach. The issue of decentralization may be responded to differently at the preservice and inservice levels depending upon the certification system desired and roles required of those involved. Some states are relating the competency approach to preservice and have initial certification only. Others (Arizona, Vermont) are concerned only with competencies for advanced certification at the inservice level. Most, however, are dealing with both.

A number of questions must first be asked. Is certification that is related to competency-based preservice preparation sufficient to guarantee minimum competence for the issuance of a license to teach? Will additional certification later in the teacher's professional career be of any value unless it can be related to meaningful indicators of competence?

A state must decide on the number and types of certificates desired, and how far into the teacher's career this will extend. Some have initiated a certificate for the preservice student teaching period so the individual is considered a member of the professional staff. Others require an intern certification period during which the teacher is closely evaluated. This intern period is of short duration, from one to three years, which may distinguish these certificates from what are frequently called provisional certificates lasting up to five or six years. Other states (Minnesota) have adopted the concept of renewal units, with recertification every five years or so.

A major criticism of limited certificates is that generally the "successful" teaching experience frequently required for the next certification level is evaluated in a perfunctory way if at all. In one state it has been reported that no one was ever denied their permanent certificate! A competency approach to evaluation may provide the vehicle for an appropriate determination of qualification for the next certification level.

An important decision is how the certificate level competencies will differ. Will the difference be in terms of number of competencies, types of competencies, criterion levels for achieving competencies, or all of these. Can and should competencies be "sliced" minutely enough to accomodate several certification levels? Many of these concerns cannot be answered until an attempt is made at the actual defining of competencies.

One problem that occurs is the relationship between certification, employment, and tenure. Generally these are considered separate issues. But if this is the case, then evaluation for certification and tenure should be separate. If they are not, then all the problems of conditions of employment and negotiations become part of the certification process. Separating the evaluations, however, creates a cumbersome situation with greatly increased cost factors.

Should inservice evaluation be required for additional certification levels, and this process is separate from evaluation for tenure, an interesting situation may develop. A local district may find an individual unqualified for their district, yet the teacher may have been judged qualified for higher (even permanent) certification. This may be rationalized by pointing out that certification standards are minimum standards and hence it is quite possible that the teacher meets minimum standards but not the higher competence needed to teach in the district. The reverse situation would be more interesting but not likely to occur.

Although the above explanation appears to be a logical one, in reality there still may be problems. Administrators may feel that their position has been weakened, and it would be most difficult to judge a teacher as unqualified where he has just been judged qualified for a lifetime certificate.

The costs, and particularly the logistics, of separate evaluations can become overwhelming. Political concerns such as who is to be involved also become significant.

Another problem related to intern periods and inservice competency evaluations is related to the teacher who is seeking an endorsement in a second area. Will another appropriate intern period be required, and will permanent certification be granted only in the area in which an inservice evaluation occurred?

Decisions about certification levels can be quite simple at the policy level, but it is the implementation phase that becomes quite complex. These decisions have very important implications for future steps in the planning process. Also, this is one area in particular that may be modified once field testing is conducted or programs become operational and provide information.

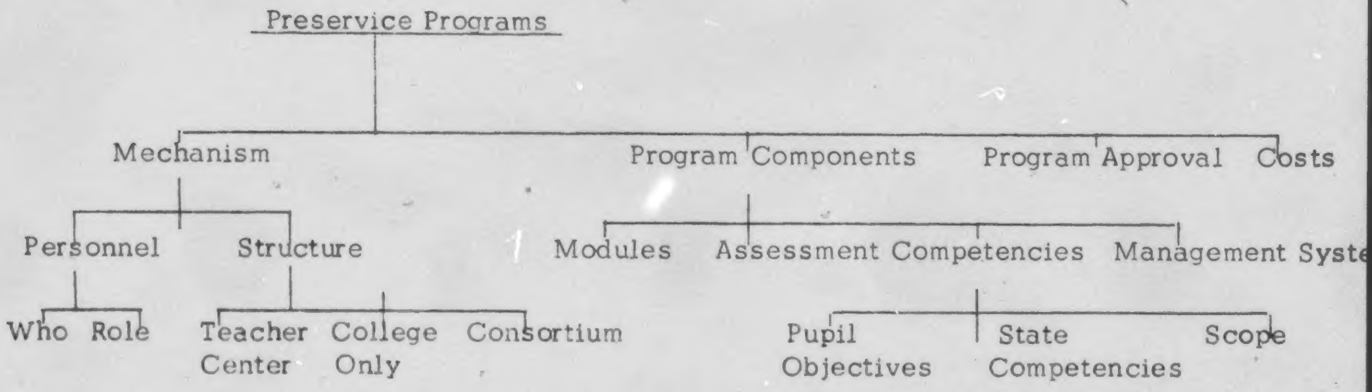
Delivery System Structure

Decisions concerning the state's role and thus the basic approach, and decisions about certification levels, both provide direction as to the means for achieving the desired goal. A system must be structured to develop the approach to CBTE and the training and certification program identified by the state.

The delivery system may involve two major components, inservice and preservice education, depending upon the certification levels or other factors desired. Only the extreme models on the continuum would not be concerned with details of neither the inservice nor preservice programs. All other models require approval of some type of program. Approaches to both preservice and inservice competency-based education will be discussed here.

Preservice

Competency-based preservice programs come in a variety of forms. The state has a number of options, the first of which is whether or not to mandate program types. The elements in competency-based program design which follow may be incorporated in state plans or may evolve through the requirement of CBTE or merely through its support. Figure three provides an overview of the areas to be considered.


Preservice Programs
Mechanism
Program Components
Program Approval
Costs
Personnel
Structure
Who
Role
Teacher Center
College Only
Consortium
Modules
Assessment
Competencies
Management Syst
Pupil Objectives
State Competencies
Scope

(figure 3)

Mechanism

An important area for consideration when deciding what portions of the program will be required by the state is the mechanism for implementation of the preservice programs. Two aspects of this which are integral parts of the mechanism are program structure and personnel. Each has been approached in a variety of ways.

Consider the structure first. Since competency-based programs are usually much more field centered than current programs, ways of approaching this need to be devised. Some programs maintain the college as the primary organizational unit involved, but increase the field experience components within the programs.

Another approach is the development of a consortium as the organizational unit, with participation by a variety of groups. Washington's approach to the development of consortia for preservice preparation programs leading to initial regular certification has been described earlier. The emphasis in this approach is parity in decision making.

A third alternative is the teacher center concept. In this paradigm the college establishes a close working relationship with a public school with field experiences centered in the district. In this arrangement the college plays a more dominant role than in the consortium approach and inservice programs are a part of the system, but the distinctions are otherwise not always clear. Texas and Florida are involved in this approach.

In each of these organizational patterns a key component is the personnel and organizations required to participate. Various groups have been mandated to participate in the teacher preparation process, such as: local education agencies including teachers, professional associations, and administrators; college and university personnel; students; citizens; state department of education personnel; and others. The numbers of individuals from each group also need specification if this route is pursued.

If such groups are required by the state to participate then how they are to participate needs clarification. What role do they play in the program? Are they involved as members of boards and review committees, thus serving in an advisory capacity? Or do they make policy decisions? A third possibility is that they are active participants involved in activities such as competency definition and assessment of teacher candidates. Combinations of the above may be required by the state to serve different functions in preparation programs.

Program components

Another area of primary concern is the specification of CBTE program components. Will modules be required in addition to competencies? Will requirements be established in reference to assessment techniques. Florida requires programs to establish assessment techniques related to the performance criteria in performance standards. It is generally agreed that the evaluation of competencies is an area of significant weakness in CBTE. There is a great need for appropriate evaluation instruments and procedures. This is an important point to remember when mandating programs and their components.

The general approach to CBTE taken by a state as discussed earlier will have a direct bearing on the competencies. Various approaches are: to require that the state adopted specific competencies be used, that state adopted generic competencies be used as guides, or that competencies be directly related to pupil outcomes (state or institution derived).

It may also be necessary to determine the scope of the competencies required in the preparation program. In which of the following areas will competencies be required: instructional competence, knowledge (liberal arts, specialization area, general education and teaching), and personal attributes? Much of this can be specified in state program evaluation procedures.

Program approval

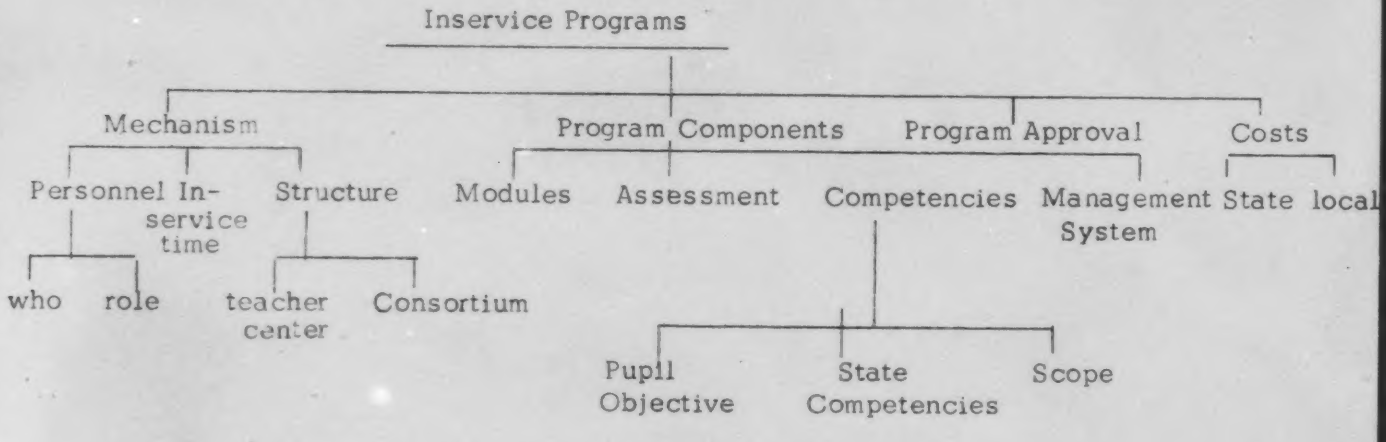
Previously it was pointed out that the CBTE programs have unique characteristics and thus require unique accrediting or program evaluation criteria. Little has been done in this area but states must address this issue early in the process, particularly if CBTE is mandated. All of the factors discussed under preservice programs may need to be incorporated in such standards. An example of how standards might be revised to accommodate CBTE is provided in, "The Relationship Between Teacher Education Accreditation Criteria and the Competency Approach," by Robert A. Roth. The need for CBTE management systems is discussed there.

Costs

Finally, the costs of developing, implementing and managing CBTE programs must be studied carefully. Information on existing programs and ways of alleviating costs would be beneficial to institutions moving toward CBTE, and to the state in developing support systems (not to mention legislatures).

Inservice

Competency-based inservice programs experience many of the same problems attributed to preservice programs in the preceding discussion. Figure four provides an overview of the areas to be considered in implementing competency-based inservice programs. Only those factors significantly different from the preservice program will be described.


Inservice Programs
Mechanism
Program Components
Program Approval
Costs
Personnel
In-service time
Structure
Modules
Assessment
Competencies
Management System
State
local
who
role
teacher center
Consortium
Pupil Objective
State Competencies
Scope

(figure 4)

Mechanism

Within the inservice approach one additional mechanism emerges, mandating inservice training. Some states require a specified number of days for inservice staff development, which can provide the support for a competency-based inservice evaluation-training system.

The dominant personnel and their roles may change when shifting to an inservice program. Here the role of bargaining units becomes a factor not encountered in the preservice situation. The logistics of evaluation also can become very complex as discussed earlier. In terms of structure, the teacher center can provide the setting for both preservice and inservice education, thus adhering to the principle that teacher education is a continuous process extending into the professional career of the educator.

Inservice programs can be tied into the certification process also. These programs can be cooperative school-college ventures, and may or may not lead to advanced degrees. The state of Washington, through its preservice preparation consortia, have certification programs where the degree is available but not necessary.

The University of Bridgeport's Multiple Alternatives Program is an inservice competency-based teacher education program for elementary teachers, which, for the majority enrolled, leads to a master's degree in elementary education. The program decision making is shared on a parity basis among teachers, their school representatives, and college faculty. This is an individualized program related to the professional's needs in teaching.

Program Components

Development of teacher competencies and assessment of these competencies again take on new perspectives in the inservice situation. This also has a bearing on the source of pupil objectives it required for competency definition. Responses to questions such as who is involved in defining the pupil outcomes varies significantly from the preservice situation.

Program approval

Just as accreditation criteria for preservice programs may have to be modified, inservice programs leading to certification may have to meet some type of state standards and approval. Some states have begun to develop standards for approval of inservice teacher education-certification programs.

Costs

An additional consideration is the costs and funding for programs. Costs will determine feasibility, and states will have to consider what portion of these programs are state fiscal responsibility. With inservice programs states will share in the financing of activities much more so than in preservice programs since all public schools are involved. Many state education budgets provide for state supported inservice teacher education.

Support Mechanisms

Three key areas in the development of CBTE are the identification and specification of teacher competencies, the design or adaptation of training materials or delivery systems to provide opportunities to acquire competencies, and the development of assessment techniques appropriate to the specified competencies. All of these pose significant problems to those interested in adopting the competency-based approach.

With the realization that these three components are essential objectives in the design and implementation of CBTE, it is important to note the myriad of conditions which hinder the efficient and effective accomplishment of these goals. Many barriers exist, both within and external to a particular college or university.

Among the more serious and frequently cited problems are cost factors, availability of time, and lack of information or understanding of CBTE. Many of these are interrelated. Orientation and training of staff, acquisition of materials, re-allocation of priorities and time commitments, and the long hours of costly staff time necessary for module and delivery system design are specific examples of problems inherent in CBTE program development.

A typical approach to CBTE is usually as follows:

a) orientation of faculty to the CBTE concept
b) a literature search for sources of information
c) acquisition of modules, training materials, and lists of competencies
d) consultant assistance
e) adoption, adaption, or development of competencies, modules, and training materials
f) design of instructional system
g) field testing of materials and subsequent modification

Each of the above steps poses serious problems. A recent survey of operating CBTE programs asked what would be most helpful in developing CBTE. Several representative responses were cited as follows:

> "Inservice time for professional personnel. Thank time. Travel to visit other programs. The cost of producing a module is over $1,000."
>
> "An analytical study of 'consequences' to reduce the proliferating competencies. If we don't synthesize, we are going to pollute the effort."
>
> "Time for developing and researching CBTE materials; conferring; video-tape materials; inservice education for all personnel."

Among the open comments cited was:

> "CBTE will not survive unless dissemination is better (people not hoarding) and there is financial support. Accessibility is just too difficult." 24

It should be noted that the above processes, problems, and comments apply equally as well to inservice competency-based programs, and this areas has seen very little activity thus far. There is a significant void in the competency-based inservice area and the potential is great.

The result of all of the administrative problems referred to is that so much time and effort is spent on these developmental and management aspects that competencies of only a very basic nature proliferate the literature. Little time is left for the study of more complex facets of teacher competence. This problem is compounded by the fact that there is lack of a coordinated effort or a central organizing agency. In addition, much of what is being done in a given state may be isolated from state education agency efforts in the competency area.

This section addresses the basic problems of CBTE program design and the conditions which hinder their solution. It suggests taking the next step in studying the competency movement, that is, coordination and technical support of programs.

One is the most loudly voiced concerns is that in those states where CBTE has been strongly urged or mandated that state has not provided the necessary support for program development. In order to provide for successful implementation of a comprehensive CBTE program a system should be developed to provide the necessary resources and support mechanisms in whatever way possible by the state. A cost analysis for CBTE program development and management would reveal areas that could be significantly reduced if a flow of information, materials, and strategies were maintained. Perhaps the prime target area would be the reduction of staff time, which appears to be the most needed and costly element.

To illustrate how a central coordinating agency can respond more effectively and efficiently to the development of CBTE, a few steps in the process of program design previously outlined will be reviewed. The comments cited earlier will also be related to these steps.

The initial orientation of faculty (step a) can be done through state developed presentations using materials, personnel, and ideas from existing CBTE programs, both within and outside the state. Statewide conferences or "pre-packaged" workshops are possible vehicles. Rather than traveling to visit other programs, essential elements of each can be synthesized and made available at the institution's request.

Literature searches and acquisition of competencies, modules, and other materials (steps b, c) are greatly simplified. Instead of identifying and writing to ten or twenty CBTE programs in the country, these resources would be available through the state education agency. All of this results in significantly reduced time and money commitment, increases accessibility, and promotes synthesis of efforts and ideas. The system also needs a built-in evaluation plan to ensure a regenerative program which continually meets the needs of the target populations.

The inservice CBTE programs probably require basically the same types of information and services as preservice programs. It should be noted, however, that public school personnel have not been playing a strong leadership role in CBTE, and a dearth of information seems to exist in reference to CBTE inservice programs. The teacher education centers, however, are making headway in this area but this is due primarily to their relationship with preservice programs. Training may be needed to a much greater extent for inservice personnel, and the support system should have the capability to provide this.

Competency Management Center

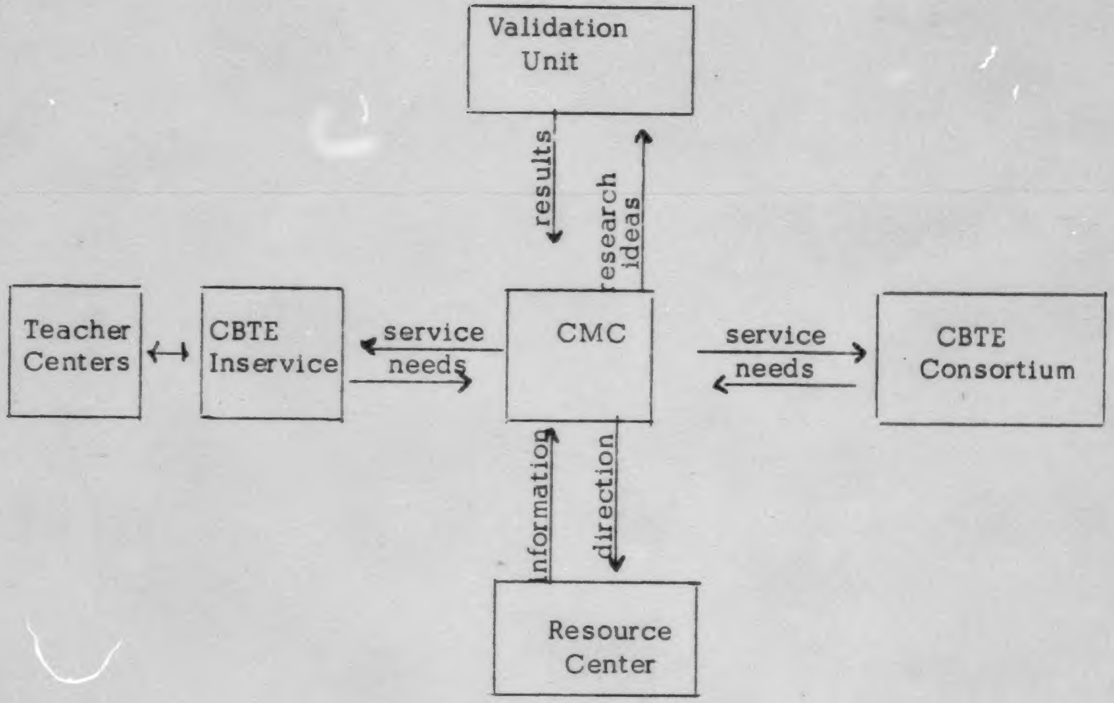
It is suggested that an organization be established as the support system and be titled the Competency Management Center (CMC). The purpose of the CMC is to function as the central coordinating agency for all CBTE activities in the State.

A major function of the Center is to serve as a consultant service to any college, school, or agency interested in the competency approach. This Center maintains contact with agencies in the other states. As coordinating agency for all research, materials, needs and services, it is an effective consultant agency or facilitator. The Center staff serve as consultants or develop consultant teams to assist an institution in development and evaluation of a program. Workshops and seminars on CBTE topics and problems will be coordinated and/or developed by this Center. A newsletter with appropriate items from each coordinated area is one anticipated service. The Center should have a built-in self-evaluation system.

The CMC would have a central staff and several arms which it coordinates (figure 5). The specific relationships of the Center to the areas coordinated are as follows:

1)	Validation Unit	The center identifies research areas and problems and conveys common validation needs as identified in the field. It also disseminates research results to appropriate institutions. In effect, it provides direction to the research validation efforts.
2)	CBTE Resource Center	The Center directs the Resource Center to appropriate sources of information, identifies ways of "packaging" or making materials available, and disseminates significant information. The needs of practitioners are identified and a communication system for direct access will be designed.
3)	CBTE Consortium:	This group of colleges is assembled and coordinated by the Center as a "colloquim" for discussion of common needs. The Center in turn alerts the appropriate agencies and assembles necessary resources to work on these areas. Findings would be disseminated through the consortium meetings.

4)	CBTE Inservice Programs	Individuals or consultant teams are assembled to aid districts in development of competency-based inservice programs. All resources and materials from the other areas could be utilized for these purposes also. Relationships with colleges interested in this activity are to be established. The Teacher Centers are to be closely tied to and supported by the Center.


Validation Unit
results
research ideas
Teacher Centers
CBTE Inservice
service
needs
CMC
service
needs
CBTE Consortium
information
direction
Resource Center

(figure 5)

The functions of each arm of the CMC will be described in the following paragraphs.

Validation Unit

The Validation Unit is the arm of the Competency Management Center which is responsible for coordinating all state resources and research efforts related to competency-based teacher education. Research topics will be identified by the Management Center on the basis of feedback from participating institutions (colleges, schools, teacher centers, etc.). The Validation Unit will formulate clearly defined research questions and develop appropriate research designs. Utilizing available resources, studies will be conducted under the auspices of the Validation Unit with the cooperation of institutions and researchers throughout the State.

One specific function would be to conduct experimental studies to validate teaching competencies. Once specific teaching competencies have been identified by groups of experts, it is necessary to relate these to an appropriate criterion of effectiveness such as student outcomes in the cognitive, affective, or psychomotor domains. Hence, the competencies will have both content validity and concurrent criterion validity.

Another closely related area of research is the validation of teacher training techniques and materials. Once competencies have been identified and shown to relate to certain student outcomes, the need is to find the best materials and means of training teachers to acquire the particular competence. Appropriate research designs and field studies would be developed and implemented by the Research Office.

As CBTE programs are developed, the opportunity to study the effectiveness of such programs increases. Comparative studies of CBTE and traditional programs would not only provide information on the relative effectiveness of these two program types but also specific information for each particular institution. Program evaluation would be strengthened with feedback from longitudinal studies that identified the long term effects of training techniques and teacher competencies.

The CBTE Consortium will be in a position to provide the Validation Unit with some direction in terms of research topics. In return, these colleges would be able to utilize the research findings and serve as field sites for validation of competencies and training techniques. Faculty involvement inconducting the studies would be encouraged. Colleges actively involved in a competency approach could serve as reasearch and development centers supported with grants from foundations and other sources, in addition to the resources of the Management Center. With the coordination of resources and research efforts even institutions with limited resources could be involved in sophisticated experimental research. With the coordinated and shared research responsibility, a systematic approach would evolve and unnecessary duplication eliminated. Competency-based inservice programs (even entire school districts) could provide and receive information in the same way as the colleges described above. This would provide opportunities for classroom teachers to be involved in research studies. Also, realistic settings would be provided to researchers instead of the contrived situations they are frequently forced to work with.

The Validation Unit would rely on the Resource Center to provide sufficient information, such as previous research and and materials from operating programs, necessary to formulate research designs and conduct the studies. Results of studies would be on file at the Resource Center also.

Resource Center

In order to encourage and aid in development of competency programs, there is a need to provide a variety of resources to the colleges and schools interested in moving toward CBTE. The Resource Center would serve this function. Among the resources that would be pertinent are the following:

1) Teacher Performance Criteria - a catalog of criteria at various levels of specificity. These may be adapted, adopted, or used only as guidelines.

2) Modules - a module bank (learning packets) which can be utilized as needed by individual programs.

3) Protocol Materials - a resource center of tapes, films, and simulated materials depicting teacher behaviors.

4) Program Descriptions - detailed descriptions of working CBTE programs across the country.

5) Contact- where to obtain additional materials, consultants, and program descriptions.

6) Resources - training materials, position papers, related research, consultants.

7) Training - workshops on development of modules, writing performance criteria, etc.

Figure six provides a comprehensive list of functions, characteristics, and resources provided by the Resource Center.

CBTE SUPPORT SYSTEM - RESOURCE CENTER

Functions	Characteristics	Resources Provided
-collect materials	-system for two way flow of information	-competencies (organized, cross referenced)
-catalog materials	-capability of retrieval and cataloging	-modules
-establish data bank and catalogs	-capability of dissemination	-training materials
-disseminate materials	-access to state programs	-assessment techniques
-publish lists of materials	-accessible by state programs	-management plans
-provide consultant services	-expertise or ability to assemble it	-program evaluation systems
-assemble expertise	-leadership, coordination, and training capability	-how to do it descriptions
-provide services	-regenerative nature through evaluation system	-resource lists, bibliographies
-coordinate state activities		-position papers
-conduct needs assessments on CBTE problems		-consultant assistance and/or names
-conduct state-of-the art surveys		-program descriptions
-conduct conferences		-strategies
-develop plans for future steps		-research
-develop position papers		-surveys
-conduct conferences		-protocol materials
-plan research activities		
-conduct training sessions		

(figure 6)

Both on-going and new programs need considerable assistance in their efforts to operationalize their theoretical framework. Position papers, research, contacts, and program descriptions are particularly useful to those institutions exploring the concept before designing program proposals. On the basis of this information, interested faculty members can develop strategies for implementing a program. A set of centrally located materials that are readily accessible can be extremely useful in this regard.

For those institutions or departments who have decided to move in this direction, the sample teacher performance criteria, modules, protocol materials, and training workshops are most valuable. Sample materials and training not only facilitate the process but frequently are essential.

An important point to note is the elimination of duplication of effort. In the past, each institution would have to do its own literature search and accumulate materials by writing directly to the source. Under the current system these materials would be avialable for evaluation on short notice. The Resource Center, however, will need to be somewhat selective in its purchasing and will therefore need the assistance of requests from interested institutions.

All of the above advantages also apply to the teacher centers providing competency-based inservice programs. Here, in particular, training and consultative assistance will be of value.

The Validation Unit will need materials for specific research studies. It is important that they be aware of studies conducted in other states in the same area of the specific proposed study. Also, in order to conduct a particular study the competencies, modules, or other materials on file may be utilized. The Resource Center would provide these to the Validation Unit. Again, a great deal of time is saved.

CBTE Consortium

Most states have several colleges which have begun pilot programs in CBTE in various departments. These are not only relatively new programs, but they are dealing with a new concept in teacher education. Certainly, there are many problems to be resolved as they begin to operationalize their plans. A coordinated effort to resolve problems common to these colleges which are unique to CBTE programs would be of significant value.

A CBTE Consortium is proposed to meet the needs identified above. The purpose of this area of the Competency Management Center is to assemble and coordinate all colleges in the state that are involved in CBTE. This group would be a colloquim for discussion of common problems, needs, and activities to promote the dissemination of information and improvement of CBTE programs. Assistance in planning conferences and workshops would aid the dissemination purposes.

One means of assisting each other in the developmental process is through the exchange of ideas and materials. Competencies derived for one teacher education program may apply to another. Modules developed for one program may be adapted to fit others. Management techniques must deal with certain very similar problems no matter what the type of CBTE program. The exchange and discussion of these materials and ideas would be mutually beneficial to participating groups.

In accordance with the purpose of sharing materials, one objective of this group would be to establish a module bank, a collection of modules developed by CBTE colleges. This resource would be available to colleges and thus facilitate the development and improvement of programs. The Resource Center would maintain this module bank.

The Consortium would also be responsible for identifying appropriate materials of interest to the CBTE colleges. This would enable the Resource Center to procure these materials and make them available at a central location.

Another essential function of this group would be to identify areas of research deemed important to CBTE. This information would then be transferred to the Competency Management Center, where it would be synthesized with similar information from other sources such as competency-based inservice programs. These research areas would then be referred to the Validation Unit.

Another goal of this group would be to plan for cooperative arrangement with inservice programs. This would provide opportunities for CBTE colleges to develop relationships with public schools and teacher centers, and enable the process of teacher education to be a truly continuous and articulated process.

One of the primary functions of Teacher Education and Certification offices is to evaluate teacher education programs. Identification of characteristics of CBTE programs which are essential to their effective operation would be important in the accreditation process. CBTE programs would be subject to current approval procedures but with particular emphasis on unique aspects of competency-based programs. This office will need to examine their approval procedures carefully with respect to this new approach. The CBTE Consortium would be of significant assistance in determining the unique aspects of competency programs. The CBTE Consortium could serve in an advisory capacity to enhance the relevance and effectiveness of program evaluations.

CBTE Inservice

This proposal has recommended establishing teacher centers at the intermediate district level. These competency programs would serve the public schools and could be a continuation of CBTE preservice programs. The relationship between these programs and the work of the Consortium may therefore be closely related. The CBTE institutions could work with the local districts and centers to cooperatively develop programs for both the preservice and inservice levels, thus enabling the process of teacher education to be a truly continuous and articulated process.

The local district or teacher center would be able to obtain materials such as lists of performance criteria, assessment techniques, modules, and protocol materials directly from the Resource Center. This would obviate their searching for these documents across the country and significantly reduce the time involved in establishing a program.

The results of the research efforts being conducted would have significant implications for inservice programs across the State. The validation of competencies and development of training materials would be pertinent to these programs. In addition, the competency-based inservice programs could serve as field sites for research in conjunction with the efforts of the Validation Unit. As in the case of the Consortium, the inservice programs could also identify areas where research is needed. The local district and teacher center could then cooperate in the implementation of studies designed by the Validation Unit in areas identified by the inservice programs.

A link between inservice programs and the certification office should also be made. Should a competency-based recertification process be instituted whereby an individual teacher would undergo an inservice evaluation, results of these evaluations could easily be applied to inservice programs designed to upgrade the teacher's skills. The Teacher Education and Certification office could assist in this process through its permanent certification evaluation.

Regulation Change Specification

Clearly if a new certification system is being proposed which creates a different number of certificates, changes in existing laws must be made. Also, if just the certification standards are changed, such as moving from course lists or area descriptions to competencies, regulation revisions are required.

In addition to actual certification requirements, regulation changes may be required to:

1) Initiate new processes or organizations such as teacher centers
2) Amend or create (for inservice) approval procedures
3) Require changes in program structures
4) Create new allignments among organizations and require participation by various groups or individuals such as consortia
5) Require a specific number of inservice training days
6) Appropriate funds

The above changes may require new laws, certification or administrative codes, or policy changes only. The groups making these changes are legislatures, state boards of education, chief state school officers, or department of education agencies such as teacher preparation and certification offices.

Quite often when ideas become regulations they are then most difficult to change. It is important that such changes be made only after careful consideration and a thorough study of all aspects of the proposed program.

Management Plan Development

The Multi-State Consortium on Performance-based Teacher Education has determined that the purpose of a management plan is "to get us from where we are to where we want to go." Assuming a state knows where it is (if not, a survey may be of value), it is then necessary to achieve the goal.

The goal statement needs to be translated into specific objectives which clarify direction and enhance evaluation. Following a format similar to the Program Evaluation and Review Technique (PERT), the next step would be to select significant events and the activities which lead to these events. Resources needed and assignments of responsibility should also be determined in the plan.

A time line should be developed to coincide with the events listed, indicating beginning and completion times for each set of activities and a target date for each event. Sequential and parallel activities should be so indicated. Alternatives and decision making points may also be a desirable component of the plan. Data on the anticipated and actual costs should be collected. Evaluation of activities and objectives should be built-in. evaluating both program operation (is it operating as planned?) and program effectiveness (is it making any difference?).

The plan should be comprehensive, specific, and long range in scope. The management plan is necessary but not sufficient for the accomplishment of the goals, as Andrews points out, it guarantees nothing.[25] Careful monitoring of the plan is essential.

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INDIVIDUALIZED INSERVICE PROGRAMS FOR COMPETENCY DEVELOPMENT

A Systematic Approach

TABLE OF CONTENTS

	Page
Introduction	285
Overview of System	290
Competency Definition	293
Needs Assessment	315
Incentives	322
Delivery System	328
Evaluation	342
Getting Started	356

INTRODUCTION

Perhaps one can evaluate the success of a particular activity or concept by the reaction one evokes by mentioning its name. For example, take the word "holiday." Usually this generates a festive feeling or one of relaxation. Now the word "tragedy" produces the opposite affect. What about "inservice education", does it excite, turn off, or evoke no response at all? Unfortunately, all to often it is one of the latter two. Why do you suppose this is? Frequently cited reasons are the irrelevance and ineffectiveness of such programs. This is not always the case, of course, but nevertheless, it calls for an examination of the process.

In order to discuss and plan an inservice program, or any other program for that matter, it is necessary to know what it is, why it is needed, and what its purposes are. Let's examine each of these points and put them in the proper context of inservice education.

Inservice education is a process for extending or continuing the professional development of educators, usually teachers, while they are employed full time with a particular school district. Usually this refers to teachers, but need not be limited to this group and should include administrators. Usually it is the employing district that offers, provides, or contracts for, the inservice program. In effect, it is on the job training.

There are several factors which indicate a need for inservice education. The training a prospective teacher receives in a four year degree program is designed to provide him with the requisite qualifications for entry into the profession. The teacher education component generally consists of four semesters or less of education courses and field experiences. To turn out a well prepared teacher who has had a variety of field experiences, this may not be enough time, even for initial entry into teaching.

Even if a preparation program does provide students with the necessary entry knowledge and skills, it certainly does not go beyond that. One's repertoire of teaching techniques can never really be said to be complete. There is a need to continually expand upon one's professional base.

A second important factor generates a need for inservice education. Teacher education is in a constant state of flux, with old ideas being cast aside and replaced, in addition to expanding and building upon current ideas with new information. Perhaps this dynamic aspect of education is not always reflected in teacher preparation programs, but this may be more a matter of insufficient dissemination and unwillingness to change than that of new information and ideas. Increased knowledge, (in both subject areas and education) new teaching techniques, and new curricula require inservice training programs.

The purpose of inservice education, therefore, is to-meet the above needs. Its goal is to provide teachers an opportunity to increase their skills beyond entry level (and that which has been acquired through experience) to the profession. It is meant not only to assist the teacher in expanding, but in catching up with new developments in the field (knowledge, techniques, curricula). It is important that the inservice program address itself to the individuals' needs and be relevant to his/her teaching responsibility. Programs which are established just to have inservice activity, may be neither relevant to the realities of the classroom nor responsive to individual needs. Inservice programs provide for a continuing educational growth and renewal for educators.

Inservice programs can also be viewed as an opportunity to express one's own ideas and explore these with colleagues along with other trends in education. It allows one to keep active intellectually and avoid stagnation. In a sense, it aids in regenerating the thinking process in a never ending pursuit of instructional excellence. This may seem a bit esoteric, but hopefully it conveys an idea anf reflects a very real concern.

In view of these needs and corresponding purposes, how have inservice programs responded? There always is danger in generalizing, but they have been characterized as taking a "buckshot" approach to professional development. There usually is not a systematic planned program which is related to the needs of the teaching staff in general, yet alone to each individual's needs.

In many instances the approach taken by those developing an inservice program is to offer (or require) training on topics which they feel meet the needs of their staff. A more frequently used criterion is that of interest. Program developers will offer what they feel is of interest or what teachers may indicate to be of interest from a list of alternative topics. If the program was interesting, it is judged to be successful.

More energetic planners search the literature for current topics, fads, or innovative ideas which appear to have promise. Certainly it is important that a staff be aware of new ideas and the issues which relate to them, but this is not enough to ensure adequate professional development of educators. A more comprehensive needs oriented approach is needed.

In addition, inservice programs exist in isolation from professional goals or requirements of staff members. For example, a teacher may be pursuing a master's degree at a local teacher education institution. Sometimes this may be accepted toward inservice development requirements. The inservice program at the school, however, may be unrelated to the master's program, and it is not uncommon to find neither of these to be related to needs of the teacher in the classroom.

In many states teachers are required to accumulate additional credits after initial entry into the profession in order to qualify for advanced or permanent certification. This is a response to the needs beyond initial preparation pointed out earlier. Inservice programs could provide a link between advanced certification requirements and the needs of the teacher in the classroom. This is rarely done. It should be noted, however, that in most cases college credit is required for certification in state regulations.

Perhaps one of the most serious deficiencies in inservice programs is that they are not tied in any way to teacher evaluation. Evaluation should not be focused on only making judgments about competence. It should be well conceived to provide information about the strengths and weaknesses in a teacher's professional ability. Once weaknesses have been identified, the teacher or administrator should be provided with opportunities to fill in gaps and improve areas in which deficiencies have been identified. Evaluation then becomes less threatening and serves a more useful function.

The scope of inservice education should be as broad as the professional needs of the teachers and administrators it serves. Traditionally, the focus has been on instructional competence, including teaching and management skills. Certainly this could form the core of any program. Examples of other areas which warrant consideration include curriculum development competence, inter-personal relations, and instructional self-analysis skills.

It is important to note that instead of planning an inservice program around "areas" such as these, it is preferable to think in terms of a needs analysis which includes all of the necessary components. The difficulty with a program that provides training in terms of all these areas is that it presupposes a need for training in these areas and assumes that all professional needs are encompassed by the areas defined. This is how teacher education programs (including advanced degrees) are usually structured. A needs oriented approach that includes these areas as part of the needs analysis process, however, neither presupposes needs nor comprehensiveness of the areas identified.

The title of this book includes the terms "individualized", and "competency development." Up to this point much of the discussion has related to the individualized aspects of inservice education. The needs analysis approach clearly supports this feature of the inservice program proposed here.

But what does "competency development" mean and how can it be approached? If one is to systematically approach inservice education, then it is necessary to define the skills (taken in its broadest sense) necessary to effectively perform the responsibilities associated with the particular position. The knowledge, skills, and personal attributes required have been referred to collectively as competencies. A competency describes the teacher or administrator behavior and a level of expertise required for successful performance of a particular professional responsibility. Whether or not this can always be stated and at what level of specificity will be discussed under another section.

Competency development then, is a process of finding out and then clearly stating what one needs in order to carry out one's responsibilities, which is followed by a systematic process of providing the individual with these identified competencies. It is actually a very logical and simple concept, however, the implementation becomes much more difficult.

An approach to preservice teacher education which has currently gained considerable notoriety and which has generated a great deal of controversy is the approach known as performance or competency-based teacher education. Competencies include knowledge and classroom performance skills, and a level of proficiency is provided to indicate the standard necessary in order to have achieved the competency. It's essential elements include the stating of explicit competencies which are made public, the description of assessment techniques directly related to these competencies which are also explicitly stated, and made public. The program is designed to facilitate the student's achievement of the competencies which have been stated, and frequently a variety of modes are available for acquiring the competencies.

Many of the competency-based programs have taken a unique approach to the delivery system needed to incorporate the components of a competency-based program as described above. Instructional modules have been developed which contribute to an individualized program which focuses on specific competencies. Modules generally have the following components: clearly stated objectives which are observable and measurable, preassessment to determine if the objectives (competencies) are already possessed by the student, alternative methods of achieving the objectives as suited to individual interests or learning styles, and post assessment to determine if objectives have been attained.

Inherent in the competency approaches is a belief in the individualization or personalization of education including self-pacing. Specifics of these components will be described in detail in later sections.

As one examines the needs of inservice education and the purposes it is to fulfill, and compares this with basic tenets of competency based education, it becomes evident that the methods of the competency-based approach can play a useful role in inservice teacher education similar to the way in which it has been applied to preservice education.

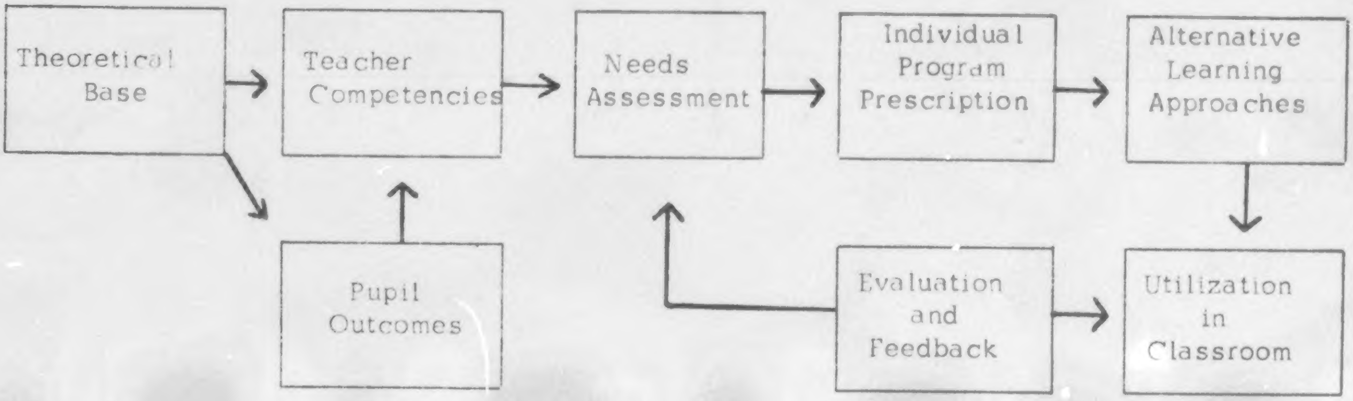
Perhaps the most obvious link is the need for individualization of inservice education and the emphasis placed on this type of instruction in most of the competency preservice programs, particularly as exemplified by the module approach. Another relationship is the importance in inservice programs for a more systematic approach which emphasizes the skills needed in the classroom for more effective teaching, and the emphasis in the competency approach on the identification of these essential skills and their specification as objectives of training.

The concept of using explicitly stated objectives as goals of teacher instructional programs is not without its critics. There is concern, for example, with the overspecification of outcomes with a resultant loss of meaning or intent of the objective. There is concern that the breaking of skills into very small pieces deminishes the integrative effect which must occur if the skills are to be meaningful. An attempt will be made here to adopt those essential components of the competency approach which appears to have merit for inservice teacher education, but to avoid those problem areas that have been pointed out by some critics. This will result in a type of eclectic approach that utilizes those aspects that appear to have merit that are derived from a variety of approaches.

OVERVIEW OF SYSTEM

In the previous section the needs and purposes of inservice education were described. The next concern, which is much more difficult to deal with, is how to operationalize the necessary components into an effective inservice delivery system. An overview of such a system will be provided here, with a detailed description of each section following in subsequent chapters. The system to be described is basically a simple one, and reflects just plain common sense. The concepts are not really new, but the system integrates them into a logical pattern. Figure I is a schematic of the overall approach.

FIGURE I


Theoretical Base
Teacher Competencies
Needs Assessment
Individual Program Prescription
Alternative Learning Approaches
Pupil Outcomes
Evaluation and Feedback
Utilization in Classroom

For the purposes of clarity, it can be assumed that the above model might be adopted at the school district level. Examples can then be provided in that context.

In order to provide a frame of reference for the development of the inservice model and particularly for the writing of competencies, the district staff (or those responsible for the inservice program) should identify the purposes and functions of such a program. When involved in the task of defining competencies, some perspective on the nature of the teaching-learning process and goals of education are essential. The specific competencies can be developed within this context, using more detailed items such as pupil objectives as reference points. The important message here is that one needs to think about the educational process and what that means in terms of the roles of the staff in the everyday classroom situation.

Once the context building has been accomplished, there is another activity which provides significant direction to the specification of teaching competencies. The general conception about how students learn must be followed by determinations of what information and processes the students will learn. This includes subject matter, though processes, and attitudes. By defining these in clearly stated terms one is able to formulate those competencies which are directly or even indirectly derived from the sought after student outcomes.

Having identified the nature of the teaching-learning environment desired and the expected outcomes for students, one is in the position of being able to take the next step, which is the defining of teaching competencies. The competencies should enable the teacher to create the necessary environment consistent with the teaching roles described earlier in the process. The competencies should be derived from both the statements of student expected outcomes and the description of the desired environment. The proper learning environment may foster the development of unexpected positive outcomes and, therefore, it is an important source from which to derive teacher competencies. Each of these two sources are necessary but not sufficient for teacher competency description.

Let us assume that a school district has gone through these initial steps and has determined what is necessary to teach a given subject area or grade level in its schools. What does this mean for the individual teacher? Clearly, the first question to be asked is if that teacher does indeed have those competencies. A needs analysis must be conducted to determine if the teacher possesses the competencies. The needs analysis should be based on, but not limited to, the competencies. The competencies would be the primary focus, but teacher perceived needs beyond the competencies identified should also be determined.

A needs assessment may be conducted utilizing a variety of sources of information, and these will be described in later chapters. The process is intended to determine deficiencies for each individual so that a program may be developed relevant to each teacher's needs, instead of being based on current topics or other such variables. The needs analysis makes this possible.

Once it has been determined what a particular teacher needs, it is necessary to set out a program of instruction which matches these needs. The instructional system may consist of self-paced audio-visual units, small group sessions, or the more common inservice group instruction. Ideally, the instructional system both meets the individual needs of the teacher and provides a variety of approaches to acquiring the competencies that fit the teacher's learning style or preference. The inservice training is thus individualized in both aspects of the program.

It is important to note that a program, no matter how well planned or individualized, will not be successful unless there are incentives for educators (teachers, administrators) to improve the areas of deficiencies. Some will do this out of their own professional sense to improve their skills, others will need more tangible incentives such as higher steps on the salary scale, and others may need a strong push through required inservice training. Whatever one's position on the topic, it is an important area that must be dealt with in designing a program.

For the sake of continuing with the inservice model, let us assume that all preceding steps have been taken, including an individually prescribed program and appropriate incentives. Again, the system will not succeed unless there exists an available delivery system to provide the necessary training. The training processes must be suited to the needs of the individual teachers and must be accessible.

Suggestions for developing an appropriate delivery system for inservice education will be described in a subsequent chapter. Essential components include the use of individual program prescriptions, the availability of training materials and processes appropriate for the design of individual programs, and assessment to determine when the teacher has achieved the objectives of the program (his/her needs).

All of the preceding steps have been taken to improve the effectiveness of the teacher in the classroom or administrator in the school. The nextstep in the process, therefore, is to return to the work environment and utilize what has been learned. Several factors must be considered to ascertain whether the skills learned are effective. It is necessary to first determine whether or not the recently acquired skills are actually being used. Data from the needs assessment are useful for comparative purposes at this point.

Evaluation of the utilization procedure also includes a follow-through process, where reinforcement of skills is provided whenever appropriate. This involves continually building up and practicing the competencies in question. Evaluation of what is or is not occuring involves a feedback process whereby the individual becomes aware of those competencies that he continually needs to be aware of and practice.

At appropriate intervals, or when a skill is consistently lacking, a needs analysis is reformulated and used to prescribe additional inservice work, and the cycle at the end of figure one is re-entered. Thus, the evaluation component involves follow-up activities to determine utilization of skills and follow-through activities to continue building and reinforcing newly acquired competencies.

COMPETENCY DEFINITION

As briefly described previously, the process of defining competencies utilizes the theoretical base and definitions of pupil outcomes. This chapter will discuss the theoretical base, pupil outcomes, and teaching competencies. We shall begin by examining the theoretical base.

The theoretical base is a group of statements concerning ways students learn and the teaching roles related to these, in effect, the nature of the teaching-learning process. It describes the kind of learning environment desired in the schools, and the activities, roles, and dispositions of those who function within it. These are very general statements which build a context, and must be later stated in more specific terms in order to be operationalized.

The inservice system described in this text is built on certain theoretical assumptions which will provide us with some examples. As you consider the following, note that the teacher is the learner in inservice programs.

1) Teachers learn at different rates.
2) Teachers have different learning styles and, thus, learn in some ways better than in others.
3) An instructional program can be most effective if it is related to the needs of the teacher.
4) The needs of the teacher should be derived both from his/her perception of needs, and the competencies he/she possesses as compared to the competencies required for his/her job.
5) Inservice programs should be systematic, relevant, individualized, and related to the goals of education for the district and program.

Taken collectively, these assumptions build the environment of the inservice program and set the parameters within which the program operates. A similar, but more comprehensive, set of theoretical statements should be defined for the teaching-learning setting in a given school district.

Taken individually, each of the statements provides direction for the design of the inservice model described here. The first assumption, teachers learn at different rates, requires an inservice program that provides for each individual to complete program objectives at his own rate, it does not provide for programs with course type structures where everyone completes as much as he can within a standard time reference (five weeks, one semester, etc.).

The second assumption, that teachers have different learning styles, requires that the inservice program has a variety of instructional alternatives so that the individual may choose that which accomodates his learning style or preference. The opposite assumption, that all teachers learn by one method only or learn best through one particular method, would require an inservice program utilizing one instructional approach, such as group lecture only or programmed materials only.

The third assumption was that an instructional program should be related to the needs of the teacher. Translating this into a program provides that instruction and content should be directly related to and built upon each individual's objectives and needs. Programs using "current interest" as the sole criterion for content selection would not be consistent with this assumption.

The same type of statements and ensuing process are necessary to formulate a theoretical base for developing competencies. The statements in this case, however, will relate to the learner, the teacher, and the learning environment, and will be comprehensive enough to cover all aspects of the program.

Let us now examine some possible theoretical assumptions about teaching and learning in the schools. A statement similar to the first one discussed previously, is that sudents learn at different rates, some acquiring certain types of material faster than others do. This hypothesis can be stated or interpreted in a variety of ways. For example, student X may learn science concepts faster than student Y, or student X may acquire all types of information or process (knowledge, concepts, analytical thinking) faster than student Y, or student X may only acquire certain types of thinking (verbal reasoning) faster than Y but they may acquire other types (factual information) equally as fast.

The above interpretations imply that not all students should be expected or required to learn the same amount of material in the same amount of time. Rate may be adjusted for, either in terms of amount of material expected in a given time period or in terms of time allotted to given amounts or types of material. The important point is that this factor be accounted for if the basic premise is part of the theoretical base.

Consider a second possible hypothesis, again similar to an assumption for this inservice model. The hypothesis is that students have different learning styles and, thus, learn in some ways better than others. What this says is that there is no one best way to teach kids. The variables involved are students, the subject matter, and level of learning, among others.

Other theoretical statements commonly made concerning student learning (some of which are contradictory with others) include the following:

1) Student learning must be self-directed.
2) Students must be motivated to learn.
3) Students have a natural curiosity to learn.
4) Students should discover information and relationships.

In a similar fashion, it is necessary to make statements about how the teaching process is perceived. These statements must be consistent with the hypothesis about how children learn, in order to develop a logical structure for the teaching-learning environment. A traditional or frequently practiced belief about instruction is that the teacher is a dispenser of knowledge. The teacher's role is to present or reveal his knowledge to his students.

If one accepts the hypothesis that student learning must be self-directed, the teacher's role is to provide a variety of materials and construct a learning environment which encourages exploration. If one subscribes to the hypothesis that sutdents should discover information and relationships (the discovery or inquiry approach) the teacher produces an environment and structures learning experiences designed to lead the student to "discover" certain relationships. This hypothesis is contrary to the teacher as dispenser of knowledge position.

Another theoretical statement might contend that the teacher must assume a variety of instructional roles, at times a dispenser of knowledge, at times an advisor or guider of learning. This would be more consistent with the hypothesis about learning that says students have different learning styles.

The various philosophies of education are built upon such statements. Indeed, one might say that a philosophy of education is a collection of such statements which are consistent with each other. The more formal schools of philosophy also contain statements about education. A brief description of these statements will illustrate the point.[1]

In Idealism, the teacher stimulates the student to discover meaning for himself. In Realism, the teacher's task is to impart knowledge, that basic core of knowledge which has withstood time, not what the student wants to know. In Pragmatism, pupil interest motivates learning, and active learning is emphasized.

Progressivism, an education philosophy derived from Pragmatism, holds that education is active and related to the interests of the child, and the teacher is a guide or advisor rather than an authority figure. In essentialism, another educational philosophy, learning involves hard work, the initiative is with the teacher, and the core of education is absorption of prescribed subject matter.

As we have seen through these examples, there is a need for an overall view of the entire process. The combination of statements about teaching and learning provide the framework for the remainder of the task of developing an appropriate set of competencies for a given area of teaching.

It is interesting to note that the theoretical basis may be different depending upon the subject matter area. For example, as a result of the "new" science curricula the science staff may develop a series of statements consistent with the inquiry or discovery approach. The mathematics department, however, may see it quite differently and emphasize other teaching-learning relationships.

One final note on the theoretical base is necessary. One should not limit statements about how kids learn and what teachers' associated roles should be because of practical concerns. These kinds of things may enter into the situation at appropriate points, but not here. For example, if one believes that kids have different learning styles and instruction should be individualized, one should not refrain from building this into the theoretical model because he/she believes it cannot be achieved. If we hedge in stating our beliefs we may expect to hedge in our practices whether restraints are real or not.

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[1] adapted from George Kneller, Introduction to the Philosophy of Education, New York: Wiley Inc., 1964.

Having stated how students learn, as perceived by a particular district, it is necessary to then determine what the student objectives will be. This includes knowledge, through processes, and attitudes, in short, the objectives of students in the various courses of study, subject areas, and specific courses. These objectives can be viewed in several ways, including the kinds of individuals we desire, the ways in which they are able to think or reason, and the content and processes we wish them to acquire.

The first set of pupil outcome objectives referred to above are derived directly from the theoretical base. In this instance we are looking at characteristics of individuals we are seeking to develop. For example, if one hypothesized that learning takes place best through self-motivation and in a learning environment which is based upon the interests of the student, then we may establish as an objective that we want students who are capable of self-initiated action and who will exercise this to pursue learning.

Other student objectives might include ability to accumulate information on a problem, to weigh the evidence, to suspend judgment until sufficient data are available, and be capable of intelligent decisions. This series of objectives constitutes a set of related outcomes. Another group of objectives might state that the student should become flexible with ability to adapt to and cope with a variety of novel situations. Another might hope to develop individuals who can respond creatively, or be capable of working cooperatively on problems and in daily activities. An objective frequently mentioned because of its extreme importance is to have students who have self-confidence and believe in their self-worth.

Another set of student objectives could relate to the ways in which we want them to think. Ability to apply information and processes to new situations may be an objective. We may wish to prepare students who are able to analyze information such as a story, experiment, or social situation, and break it into its component parts. We may desire that students be capable of constructing or synthesizing what is given and/or what is known into new designs, experiments, or solutions. An additional process might be the ability to apply appropriate criteria to evaluate an event, situation, process, or object.

An even more specific set of objectives would relate to the knowledge or content we wish them to attain. Objectives here might reflect an ability to relate important events in the history of the revolutionary war, or describe the basic parts of a microscope and the function of each, or to know the main parts of speech, or be able to recognize the letters of the alphabet. These are the specific content objectives of instruction.

Other specific objectives relate to physical development of the child or use of such skills in the learning process. Eye-hand coordination and other such skills are examples of physical development. Considerable expertise is needed by the teacher including knowledge of children's developmental levels, and the ability to design learning environments which foster the development of such skills. Use of such skills would include objectives related to the ability to use laboratory equipment and conduct experiments, to use tools in industrial arts, and various skills in physical education.

An additional area of concern which warrants consideration in establishing objectives is that of attitudes. Objectives might include the students having a positive attitude toward self, toward learning in general, or toward specific subject areas (science) or concepts (democracy).

Considering all of the above objectives, it is noted that some can be stated more specifically than others. All of these, however, have some relationship, whether it be direct or indirect, to teaching skills needed to lead students to the objectives.

Having developed a theoretical base which encompasses statements about teaching and learning, and having designated more specific objectives for students, we are not able to begin determining what competencies teachers need in order to enable students to attain the objectives. If one wishes to utilize a variety of sources from which to derive the competencies, some suggestions are as follow:

1) theories of learning and instruction
2) models of teaching
3) goals of education and pupil outcomes
4) task analyses of what teachers do
5) roles of teachers
6) research on teaching
7) statements of competencies found in other programs
8) descriptions of competencies found in books and articles

There are a variety of ways to approach the development of competencies. In order to ensure a more systematic approach which is comprehensive and more importantly, meaningful, then the process of deriving the competencies from some theoretical base and relating these to student objectives is the approach recommended. The other sources may be utilized but only as they clarify one's thinking and contribute ideas. Any competencies derived from other sources may be utilized as long as they are consistent with the theoretical base which has been formulated.

As one enters the process of actually writing competencies, it is necessary to begin by defining the scope of the competencies. It is important to determine which of the following should be included:

1) knowledge of subject matter
2) knowledge of teaching
3) performance skills in teaching
4) attitudes and personal attributes

A comprehensive program which describes the total repertoire of abilities necessary to teach a given area would include all of these. Competencies, then, would be defined in their broad sense as the knowledge, skill, attitudes, and personal attributes necessary for effective teaching.

Another point of departure is to consider the broad areas for which competencies would be defined. Instructional skills would be foremost among these. Examples of these skills might include questioning techniques, classroom reinforcement, and managing student directed activities. Other broad areas might be development of instructional systems, curriculum writing, inter-personal relationships, analysis of instruction, classroom management, student evaluation, etc. Each of the broad areas would provide a number of specific competencies. It is important to keep in mind, however, that the broad areas and specific competencies derived from them should be consistent with the theoretical framework originally described.

Competencies have been written in a variety of ways and at varying levels of specificity. The essential component of a competency is the behavior or performance outcome that the individual is expected to demonstrate. Examples are; demonstrating knowledge by providing correct responses to test items, asking higher order questions, planning a lesson, or operating a 16mm projector. It is a statement of what the person will be able to do, it is not a process or experience he is expected to have, such as take a course or undergo five hours of instruction.

What about an activity such as observing a master teacher demonstrate successful utilization of a concept or strategy? Wouldn't this be worthwhile? Of course it may have significant value, and may be an excellent means of acquiring a particular skill or learning the meaning of a concept.

It is important to note, however, that there is a difference between a means of acquiring a skill and the actual ability to master and demonstrate the skill. For example, observing a teacher successfully conduct a class discussion with involvement of students and meaningful dialogue may enable a prospective teacher to conduct such a discussion. The evidence, however, is not that he has witnessed or experienced this activity, but that he himself demonstrates his ability to conduct a similar session.

It is the statement of expected outcome abilities, (performances) that gives a competency approach a distinct advantage over inservice programs that are structured around activities, such as training sessions, that the individual is to experience. It provides a clear definition of what is supposed to occur as a result of having gone through the training. Although there may be agreement that a particular experience has an apparent inherent value, two individuals may go through the activity with one gaining considerable expertise as a result but the other gaining little or nothing. Demonstration of the assumed outcome should constitute the evidence.

A second major component of a competency is a statement concerning the degree of mastery of the behavior. This portion indicates how well the individual is to perform the task. It is at this point where competency definition becomes more difficult and more specific.

There are various ways in which the competency can be stated. Some prefer to write competencies as specific behaviors with rather precise levels of mastery stated with them. An example of this type might be that the teacher will be able to write three behavioral objectives for each student with 100 per cent accuracy (each behavioral objective will have the three essential components). Another might be that the teacher will be able to ask three synthesis level questions in a given class period as planned in the lesson plan. Note that a specific behavior is described in each case, and a specific mastery level is provided such as frequency, per cent accuracy, or other evidence of mastery.

A second approach is to state the competency behavior as a more general statement. A generally stated mastery level is part of the statement. An example would be that the teacher would be able to use a variety of teaching techniques appropriate to needs of the situation. Note that the competency is general enough to cover a number of specific behaviors, perhaps a class of behaviors. Also, the mastery level, "appropriate", is not very specific, and provides for a more subjective evaluation.

An additional step sometimes taken in this general approach is the development of related performance criteria derived from the competency statement. These performance criteria are similar to the specific competency statements described above. Examples of performance criteria, derived from the competency statement "use a variety of teaching techniques" would be ability to: deliver a lecture; conduct a discussion; organize small group work; give a demonstration; use analogies; etc.

There are clearly many variations on the writing of competencies. General statements, specific statements, criterion levels at both general and specific levels, and combinations of these provide for alternative means for competency development. It is possible to use more than one of the above types of competency statement formats in a given program. Consistency is not as important as writing meaningful competency statements.

The factor which may cause varied types of competency statements is specificity. Some competencies (and/or their mastery levels) can be stated much more specifically than others. This means that in some cases a precise form of competency statement is possible, but in other cases it is not. A familiar criticism of a competency approach to teacher education is that not all outcomes can be stated in precise terms. This, of course, could be a valid criticism. The best approach, therefore, is to examine each competency and state it in general or specific terms as best fits that particular competency.

Competencies in the area of instructional media frequently can be stated in specific terms. The state of Utah, for example, has adopted competencies for teaching certificate endorsement in instructional media. Examples are:

1) The candidate will examine prepared catalog cards for ten different books and will identify the errors in cataloging and classifying according to the latest edition of Cataloging and Inventorying, Instructional Materials in Utah Schools. The candidate will not miss more than two errors nor suggest any changes not in harmony with the above publication.

2) The candidate will produce a word of six or more letters (the word must display acceptable spacing, well-formed strokes, accurately aligned letters, and neatness), using one of the following lettering techniques: a) stencil lettering, b) mechanical lettering, c) prepared letters, d) hand letters.[2]

In the area of inter-personal relations and attitudes (the affective domain) it is much more difficult to describe specific behaviors. For example, assume that it is important for a teacher to establish rapport with his students. How can this be stated more specifically? Would it be of value to state "the teacher smiles", or "uses humor." It becomes even more difficult in determining mastery levels. For example, is it meaningful to state how many times the teacher must smile? These are examples of how specificity can be misleading and result in trivial competencies in search for preciseness.

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[2] Utah State Board of Education, "Instructional Media", Division of Instructional Support Services, Salt Lake City, July 21, 1972, pp. 7,11,12.

There are instances where more exact statements are possible but where attempts are abandoned rather soon because the area is somewhat vague. Using the example of establishing a supportive classroom atmosphere, competencies might require the teacher to be able to use student ideas, encourage student initiated comments, and accept student attitudes and feelings. This is a difficult area and requires careful study for appropriate statements.

As a general rule, it is advisable to be as specific as possible in writing competencies but without losing the real meaning or intent of the competency, or without describing trivial behaviors. However, if it cannot be stated in specific terms, this does not mean it should be eliminated. An important competency should not be omitted just because it cannot be defined by specific performance criteria.

Stating competencies in specific terms greatly facilitates evaluation, that is, the determination of whether or not the competency has been demonstrated. If it has been determined specifically what criteria are to be used to assess competency achievement, then the task becomes one of looking for the specific elements, and determining if and how often (frequency, per cent, or whatever the competency requires) they are demonstrated. The competency achievement determination becomes more objective, and more reliable among those making such determinations. This is a major reason for striving for specific competencies of criteria.

A useful means of approaching the question of competency achievement criteria and specificity is to ask what evidence will be accepted that the behavior has been successfully demonstrated or achieved. The evidence provides the data upon which decisions are made concerning competency achievement. If specific kinds of evidence can be detailed in advance and are so stated, then a specific type of competency has been developed. If only evidence of a general type can be provided, than a general type competency has been written.

There are two basic ways of viewing the using of competency statements in inservice training programs. It is a question of whether the program will require the teacher to be able to demonstrate a competency, or whether he will be required to utilize the competency in the classroom setting. The first calls for an evaluation in the training session only, such as a paper and pencil test or peer demonstration. For example, the teacher could demonstrate use of a variety of questioning techniques by writing examples of these and/or using them with a group of teachers in a contrived training situation. Here it is easier to require specific types of criteria, such as use three analysis level questions.

In the classroom environment, however, it is more difficult to require demonstration of particular competencies in a given class period. The situation is not contrived, and a particular set of circumstances may develop which call for other strategies. For classroom settings, a much larger sample of teaching behavior is thus necessary and much more difficult to assess. By only requiring that the teacher be able to utilize the strategy (competency) when appropriate, much of this problem is eliminated and, hence, becomes more realistic.

By placing assessment in the classroom setting a different type of competency statement may be required. This factor again provides for varying levels of specificity in a given set of competencies. If some competencies are to be evaluated in the training session, particularly knowledge competencies, very specific competencies or criteria are possible and even necessary. Other competencies may be placed in classroom settings and, hence, specific criteria, such as frequency of use, may be inappropriate. This does not mean, however, that specific competencies cannot be written for classroom situations, judgments must be made in each case.

Assume for a moment that a competency must be demonstrated in the teacher's daily classroom and it is in the area of developing a positive classroom emotional environment. What evidence, in specific terms, can be determined in advance? Should it be determined that evidence of a particular competency cannot, or should not be specified in advance, there is something that should be done to ensure a realistic and reasonably objective evaluation of the competency. The observer should state the evidence which he/she has observed, in that particular situation, which supports his/her conclusion of competency achievement or non-achievement. This method of citing evidence as you evaluate, should be used only if specifying criteria in advance is deemed impossible or inappropriate.

Previously, several kinds of competencies were referred to; knowledge, skill, attitudes and personal attributes. A related concern is whether the evidence should be in terms of what the teacher is to demonstrate (knowledge or skills) or the effect he/she is to have on students (consequences). In these consequence competencies or performance criteria the statements can be very specific, such as the teacher giving clear directions as evidenced by ninety per cent of the students following directions, or criteria which require eighty per cent of the students answering correctly seventy per cent of the items on a test. This is a classroom setting evaluation which can be very specific, but it is an area where "can" versus "should" must be carefully examined.

The first point which raises serious questions about using student outcomes as evidence of a teacher achieving a particular competency, is that there is very little research evidence to support any teaching competency. The relationship between teacher behaviors and student achievement is just not known on the basis of empirical evidence. A number of researchers are engaged in studies of this area, but results are meager and often contradictory. The entire area is very complex.

The competencies used in programs are derived from theoretical assumptions about what should be, tempered with experienced judgment from professional educators. This is reasonable in view of the weak research base. On the other hand, how can an individual be held accountable for student outcomes associated with certain competencies, when there is no evidence that indeed such outcomes would result even if the teacher behavior were perfectly executed? Under these circumstances, it would seem reasonable to ask the teacher to demonstrate the behavior he/she was trained for and accept this, not the anticipated consequences as the evidence of competency achievement.

A second important point relates to context variables. If a competency has been shown to relate to certain student outcomes, and it has been performed appropriately in the classroom, what other variables may be functioning which effect the learners? There are numerous variables, most of which are either unknown or unable to be controlled.

In summary, we can only propose those behaviors which we believe are important, establish inservice training programs based on these, hold the trainees responsible for being able to master and utilize the competencies, and hope that the competencies will have a positive effect on the teacher's students.

At this point it would be of value to examine a number of examples of competencies. There are many competency-based preservice teacher education programs across the country which have developed a variety of lists of competencies. Most of those that follow were derived from these and, hence, reflect a preservice orientation, but nevertheless, usually apply to inservice programs as well.

One writer used major functions as areas for further delineation of competencies. Examples are as follows:

1. The Teacher States an Objective and the Component Elements of Learning Required for Reaching It

1.1 Identifies and states a specific "living" or "learning" behavioral objective as the starting point for all instructional planning. To do this the teacher should be able to . . . .

1.1.2 Differentiate between a goal of behavior (e. g., to be able to earn a living, or to be able to make a box) and the specific behavior required to produce the goal. . . . .

1.6 Arranges all of the component elements of the instructional unit in an effective pattern of coordinate or sequential. . . . .

2. The Teacher Sets the Stage for Learning

2.1 Identifies and provides the teaching materials required for perception, concept formation, use of concepts, trial and feedback. . . . .

2.2 Makes a plan of operation for conducting the instructional program. . . . .

2.3 Arranges the materials and media so they are convenient for use in the planned sequence of activities . . . .

3. The Teacher Assesses the Readiness of Each Learner and His Appropriate Starting Place for an Instructional Unit

3.1 Obtains data which show where each learner is in the sequential pattern of concepts and instrumental operants . . . .

3.2 Decides where and in what social context to start each student. . . . .

4. The Teacher Effects a Commitment by the Learner to the Learning Task

4.1 Accepts each learner in ways that make him feel secure and free to participate fully in all aspects of the program . . . .

4.6 Establishes self-responsibility tasks for students. . . . .

5.5 Activates decision-making behavior by learners under circumstances in which realistic consequences and feedback are possible, by means of

5.5.1 Real situations when they are available . . . .

5.5.2 Simulated situations when they are effective

5.5.3 School-provided out-of-class situations where possible

5.5.4 Real-life situations by means of case studies, review of critical incidents, and other vividly portrayed human experiences . . . .

5.7 Draws the learner's attention to the consequences of his behavior so he can engage in concept shaping on the basis of empirical experience, with special reference to

5.7.1 Consequences which affirm and reinforce his concepts . . . .

5.8 Provides reinforcement for instrumental operants for shaping purposes to

5.8.3 Achieve a desired level of motor skill.

5.8.3.1 By improving form.

5.8.3.2 By appropriate practice until the degree of skill is achieved . . . .

5.9 Uses verbal and nonverbal forms of communication to promote initiative, self-direction, inventiveness, and artistic creativity . . . .

6. The Teacher Activates the Verbal Learning that is Required by the Behavioral and Conceptual Objectives

6.1 Limits verbal memorization to vacabulary, data, and formulas which must be immediately available to the learner before he can use his behaviors and concepts effectively in life situations . . . .

6.2 Leaves all other vocabulary, data, and formulas to be obtained from available sources on a demand basis . . . .

7. The Teacher Assesses the Status and Achievement of Each Learner

7.1 Makes and uses subject-matter tests appropriate to the content and objectives . . . .

7.2 Observes performances in many ways. . . . .

7.4 Identifies existing need for a re-teaching from the available data . . . .

7.5 Identifies the readiness of a learner for a specific learning task.
. . . .

7.6 Assesses the motivation of students.
. . . .

7.8 Elicits the help of specialists in evaluation and diagnosis when appropriate.[3]

. . . .

It appears that these competencies are behaviors expected of a teacher in a classroom. They require the teacher to interact with students, to analyze them, motivate them, and enable them to learn and arrive at various self-realizations. Consistent with the previous discussion of classroom evaluated behaviors, the competencies are mostly general in nature, although more specific behaviors support the more general statements.

Note also that specific mastery levels or performance criteria are not part of the competencies. Assessment of the competencies is thus mostly subjective. The classroom context of this set of competencies, such as "activates decision-making behavior . . . by means of real situations" clearly indicates that a criterion of frequency or other specific criteria are not appropriate. In addition, a large sample of teacher classroom behavior is necessary.

When working on objectives of training sessions the statements are more precise. For example: objective--the student will demonstrate knowledge and skill in the objectives, assessment of skills, and instructional practices in word recognition; assessment--the student will be able to

1) identify five techniques of word attack,
2) list elements of phonetic and structural analysis in hierarchical order, identify grade levels at which the elements are introduced ,
3) list five current phonic programs,
4) identify at least 15 phonetic and structural elements; list rules and generalizations,
5) describe means for measuring work attack skills,
6) list resources from which to select techniques and activities for developing word recognition skills.[4]

Some of the objectives have quantifiable assessment criteria (5 programs, 15 elements), while others do not (list resources, list reasons). Other examples from the same program[5] are as follows:

> The student will identify and describe seven categories of reading materials for developmental and corrective reading instructional purposes.

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[3] Asahel D. Woodruff, "Accreditation by Evaluation of the Product: What it Means for Teacher Education Programs", February 17, 1968, pp. 8,9.

[4] Glassboro State College, Department of Elementary Education, Glassboro, New Jersey, 1973,

[5] Ibid.

Given a pupil who has not mastered a specific word recognition skill, the intern will teach (in a supervised tutorial situation) a lesson to develop the word recognition skill using appropriate teachniques and materials. The word recognition assessment worksheet includes: objective, task criterion, performance criterion, student performance, summary of strengths and weaknesses, and recommendations.

The student will be able, with 90% accuracy, to define and give examples consistent with operant psychology of the following terms: operant behavior, reinforcement, satiation, generalization, chaining, $S^{D}RS^{R}$, token reinforcement.

The student will demonstrate a knowledge of and skill in the use of a variety of techniques and materials for the teaching learning process as they apply to the language arts. Post-assessment consists of: 1) writing lesson plans and teaching lessons in the language arts before faculty member, 2) teach lessons with various classes of elementary school classes with an observer present, and 3) videotapes of the above lessons for the student's self-evaluation.

Given a real or simulated classroom situation, the student will be able to write long term (or short term) arithmetic objectives for an instructional group. The objectives should be judged by the instructor to be consistent with the curriculum and reasonable for the specific group.

Given an arithmetic group, the student will be able to: maintain continuous (daily) assessment in terms of accuracy and rate for each pupil; change materials, presentation method, child's method of responding, or reinforcer if assessment indicates learning is not taking place. All procedures must be judged by the instructor to be consistent with the procedures set by Precision Teaching.

The student will correctly label twenty-five concepts as observed, inferred ideal-type, or organizing.

Given a classroom dialogue, the learner will be able to appropriately label each student response in terms of its cognitive thinking levels with at least 75% accuracy.

> Choosing any skill exclusive to the social studies appropriate for the grade level, the learner can construct some measure that assesses the children's level of proficiency on the selected skill.

In the area of music education, another program[6] provided the following:

> Demonstrate ability to tune instruments including each of the following: one brass, one woodwind, one string, one social instrument (autoharp, guitar). A pitch of A or B^b will be given.
>
> Demonstrate knowledge of basic band orchestra instruments by: a) identifying the sounds of five brass instruments and playing the basic one octave scale on one.
>
> From a given concert key, write a one octave scale and key signature for the following instruments: trumpet, trombone, French horn in F, flute, oboe, B^b clarinet, bassoon, E^b saxophone, violin and viola.
>
> Demonstrate his ability to conduct 2/4, 3/4, 4/4, 6/8, and 5/8 indicating attack, release, verbal articulation, phrasing and pitch discrimination utilizing a living laboratory of a choral group and an instrumental group.
>
> Demonstrate his ability to rehearse a choir of fourth, fifth and sixth grade children using a composition of his own choice (two or three parts). The criteria to be met are: 1) good intonation, 2) good rhythmic performance, 3) good diction, 4) good tone quality, 5) effective instruction.

Another example of specific statements related to a particular competency are as follows:

1) The teacher is able to summarize a lesson as evidenced by: providing time for summary, providing opportunity for student summary of main points, re-stating the main ideas, reconstructing the sequence, not introducing new major ideas of concepts, and providing a link with subsequent lessons.
2) The teacher is able to use classroom questions effectively as evidenced by: use of questions to solicit information, direct questions to entire class before calling on student, provides student time to think before responding, provides opportunity for all students to respond, presents questions in logical order, uses questions at a variety of thought levels.

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[6] Music Task Force, Performance Evaluation Project, New Jersey State Department of Education, Trenton, 1973.

Another project[7] developed modules in the affective domain, and objectives within one were as follows:

1) After completion of the module, the student will demonstrate a knowledge of Carkhuff's five scale levels of empathic response with 100% accuracy.

2) After completion of the module, the student will demonstrate an ability to discriminate among Carkhuff's five scale levels of empathic response with 90% accuracy.

3) After completion of the module, the student will demonstrate an ability to respond empathically in simulated and real classroom situations at Carkhuff's third scale level.

An example of a consequence or pupil achievement objective is as follows:

> Given six fifth grade pupils who have not mastered their multiplication facts, the pupils will be able to master all the facts (1-10) x (1-10) and be able to complete them on a paper and pencil test at a rate of 30 per minute. The criterion is 90% accuracy by at least four pupils within four weeks.[8]

Competencies developed for administrators include:

1) Designs strategies for initiating and managing proposals at an action level

2) Recognizes when a problem exists and is able to identify it correctly

3) Clarifies problems through acquisition of relevant information

4) Seeks, identifies, and evaluates alternate solutions within

5) Understands types of decisions which can be made--e.g., terminal, interim, conditional--and the likely consequences of making each type of decision

6) Assures the continuing development of a curriculum design in each area of study

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[7] Montclair State College, Teaching-Learning Center, Upper Montclair, New Jersey, 1973.

[8] Glassboro State College, Department of Elementary Education, Glassboro, New Jersey, 1973.

7) Executes a plan for developing understandings in the community of the instructional program in the school

8) Develops a uniform system of evaluation of faculty performance which is clearly understood by those evaluated and those to whom evaluation reports are sent

9) Assists teachers in encouraging divergent and convergent thinking in the classroom

10) Utilizes faculty members with unique competencies in a manner designed to achieve "multiplier effects"

11) Establishes well-defined patterns of organization, channels of communication , and methods of procedure

12) Constructs and implements an evaluation design which systematically relates intention, observations, standards and judgments

13) Executes an evaluation plan which stimulates rather than inhibits the personal and professional growth of individuals in the school organization (students, faculty, parents, community members)

14) Acts to reduce problems resulting from role-conflict and role-ambiguity

15) Delegates responsibility for problems to appropriate subordinate levels when problems can be treated effectively at those levels[9]

The remaining question is who is to be involved in writing the competencies which serve as the basis for the inservice training program. It is a primary importance that those to be affected by the program should have the major responsibility for writing the competencies. In defining competencies for teaching, therefore, teachers should have this responsibility. This is important because they are currently actively involved in teaching and have first hand knowledge of the needs of students and the everyday requirements of teaching.

It is also important for teachers to be involved in writing teaching competencies because their needs and inservice training will be based on these competencies. The program will not be successful if the competencies are not accepted by the teachers as being meaningful or desirable. The best means of assuring acceptance is to involve these individuals in the conceptualization of the program's theoretical base. The teacher's roles and related competencies should also then be developed by this group.

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[9] Warren E. Dederick, "Competencies of the School Administrator", Phi Delta Kappan, January 1973, pp. 349, 350.

Other individuals who have different perspectives or can contribute unique expertise could also be involved. Administrators, curriculum directors, supervisors, and special consultants could make a significant contribution to the process. Much of this, of course, will be dictated by local politics and the willingness of each group to share control. Hopefully, this would not degenerate into a power struggle, but rather would become a genuine cooperative effort to improve the effectiveness of the educational program offered by the school or district. This means involving anyone who has something to contribute.

There are various ways of organizing groups within the district in order to develop competencies. All teachers in a given subject area (or a representative group if too large) such as secondary science (biology, chemistry, physics) might be organized to develop competencies for teachers of science at the secondary level. If a particular branch of science teaching (biology) has unique teaching competencies these could be identified as such and form a subset of the total set of science teaching competencies. This would be particularly true of knowledge competencies and a variety of laboratory skills (use of microscope, care of animals, etc.) The work being done on competencies thus far has indicated that most teaching (performance) competencies would be basically the same within a discipline (science) but across disciplines as well.

Those teaching junior high science might want or need to meet as a separate group, or develop unique competencies as a subset of the science competencies. If the majority of competencies for teaching junior and senior high science are the same, however, then it is recommended that these groups meet jointly. If they do not, then they should be in continuous communication with each other to share ideas and avoid duplication of effort.

It is with these subject area groups that curriculum consultants and instructional specialists from the colleges and universities would be of most assistance. Whenever funds are available or other arrangements can be made this caliber of professional should be brought in for advisement. It is important that these individuals advise but not dominate the group. Remember that acceptance of the competencies is a key factor.

A different way to approach the problem is to have a group made up of representatives from each of the disciplines at the secondary level. This group would develop competencies common to all the disciplines, and most likely would constitute the bulk of the final lists. The various discipline groups would then need to focus only on competencies specific to their area. This would provide a great deal more consistency among groups and would assist considerably in development of training programs. A potential problem with this approach is attaining consensus across disciplines even on commonly accepted concepts. If the theoretical base is the same for several groups, then the differences in opinion on specific competencies will generally be semantic rather than substantive in nature.

In the elementary school grades one is much more likely to find a common set of teaching skills. Differences may exist between the primary and upper elementary grades but essentially the majority may be common throughout these grades. In these grades it may be more useful to organize around teaching areas such as reading, mathematics, social studies, science, physical education, etc. Elementary school teaching is characterized as being more "child oriented" than "subject matter oriented" and competencies consistent with this orientation may be integrated into each subject area or established separately.

Whatever system of grouping is selected, there is likely to be some overlap and duplication of effort. One way to eliminate some of this and at the same time to assist each other, is to continuously exchange materials, particularly while in the developmental stages. Cooperation among groups would be beneficial in several ways.

Another step in the process is necessary when representative groups are writing competencies for the entire staff or subject area staff. Initial drafts should be circulated among faculty members to whom a set of competencies apply. Their suggestions should be used to revise the initial copy. After further work and revisions based on faculty input, a revised draft should again be circulated. This re-cycling process hopefully would eventually result in a list that receives faculty support. In addition, each member would have played a part in the process.

There is another source that one might turn to in writing competencies. Many programs have turned to the students in the schools to ask what they think "good" teachers ought to be able to do, or what they liked about teachers they thought were effective. Their perspective of the teaching process may be quite different and, hence, could provide some valuable insights.

Another source of relevance to a particular district would be the nearby colleges and universities. What they require of their student teachers might be of interest. A local teacher education program that is competency-based would be of particular interest. There is significant potential here for coordinating preservice and inservice programs on the basis of competencies expected, thus providing a continuous development program for staff. Consultants from these institutions would be extremely useful not only to enhance coordination but to utilize their experience in the development of competencies and the entire inservice program.

In summary, the first step in the process of writing competencies is to develop a theoretical base, a framework describing the nature of the teaching-learning process. The next step is to identify the broad areas within which the competencies would be written, such as the basic roles of teachers. Following this and consistent with it are the specific competencies required of the teacher in that particular school district. The nature and specificity of the competencies will depend upon the particular competency and the context in which evaluation of the competency will occur.

The competency statement consists of the behavior to be demonstrated and the evidence or mastery level accepted that the competency has been achieved. A variety of ways are available to organize the writing process, but it is important to involve teachers in writing the competencies which will apply to them.

NEEDS ASSESSMENT

Frequently, inservice programs are not generated on a needs basis, and hence miss the main objective of such programs. A commonly practiced procedure is to approach inservice training in a haphazard fashion organized on the basis of whatever topic comes along. A program may be well planned in the sense that it offers training on a regular basis, and that sessions are well organized. This approach may still be part of a hap-hazard system if there is not an effort to provide a systematic and integrated total inservice program.

In order to provide for a meaningful inservice teacher education program that is systematically organized, there is need for an integrative theme or point of reference. The most logical unifying theme which should serve as a basis for an inservice program, is the needs of the teacher that the inservice program is meant to serve. Indeed, the purpose of inservice teacher education is to meet the needs of each individual participating in the program.

The scope of the inservice program should be broad enough to encompass all areas of need within the domain of teaching. In order to provide direction to the program, particularly on an individual basis, it is necessary to determine what the individual teacher's weaknesses are and in what areas he feels the greatest need for improvement. This requires a needs assessment process that is built into the total inservice program.

It is again necessary to approach the needs assessment in a systematic fashion to ensure relevance, depth, and comprehensiveness of the training which is to follow. By identifying needs and then providing a well organized developmental program which is directly related to these needs this can be accomplished. In essence, a more thorough and efficient system results.

There are several advantages to a needs based approach to inservice education. A program based on needs would be much more meaningful in that the result of the effort hopefully would be improved classroom instruction (or improved administration). The training program would thus be much more realistic and relevant. The important result is that if the teacher believes the program will be focused on his specific needs and not other extraneous material, he will be much more motivated to participate and will participate in a real sense instead of just going through the motions. An assumption here, of course, is that the teacher wants to improve his skills.

Assume at this point that the school district has adopted a set of competencies which have been developed as described (primarily by those they pertain to). These competencies provide an excellent organizer for assessing professional needs of the teacher. If the competencies are pertinent to the improvement of instruction, comprehensive enough to cover all essential areas, and sufficiently detailed to provide adequate depth, then the needs analysis has this same potential.

The needs analysis is conducted using the list of competencies as the referent, but is not necessarily limited to these. The purpose of the inservice program is to assist the teacher, to help him improve his instructional competence. If the individual expresses needs in addition to the listed competencies, they should be attended to. If the competencies have been properly approached, however, these instances would probably be rare.

An important aspect of the inservice program is the manner in which the individual's needs are assessed. It is extremely important that the individual be involved in determining his needs. Even though a well defined list of competencies are available, and the individual accepts these as valid, the critical step in the process is that the teacher recognizes and accepts weaknesses in his/her knowledge or skill. The combination of accepting areas of deficiency and a willingness or desire to improve is an important ingredient for a successful program. An effective means of providing for the individual's accepting areas of needed improvement is to involve him in the process of identifying his/her needs.

A type of side effect which results from personal involvement in needs assessment is that the process becomes less threatening. The purpose of evaluation becomes more directly focused on improvement, and the purposes and evaluative criteria of the inservice instructional program are known by all those involved. Personal involvement assures a more equitable and enjoyable experience.

Having set some of the ground rules for a needs assessment, it is now necessary to examine some possible approaches to the endeavor. The first problem one faces is the scope and complexity of the task. The competencies may encompass such a comprehensive area and a variety of tasks that the comparison of one's knowledge and abilities with such a list might seem a monumental task. It is necessary, therefore, to approach this in a systematic fashion with sections of manageable size.

A suggested approach is to break the total set into basic areas such as knowledge, instructional skills, personal interaction skills, parent-community relations, and other broad areas. This type of classification may seem artificial but it helps reduce the assessment procedure to a more manageable task. The choice of areas may be pre-determined by the manner in which the competencies were classified in the writing process.

Once the entire set has been categorized accordingly, one can proceed with a systematic analysis of each category by methods to be described in the next several pages. The analysis may provide enough areas of work to necessitate a long term inservice development plan. One might begin the analysis in the categories where there is the greatest need or the individual believes has the greatest importance.

One method is to first collect some data, such as classroom observation, and then, upon comparison with the competencies, list the areas or specific competencies which appear to be lacking. The difficulty with this approach, of course, is that observation is not focusing on any specific aspect and may not pick up important details of a particular competency. In addition, knowledge competencies can be better assessed by other means.

An important step in the needs assessment procedure related to managing the size of the task, is to establish a series of priorities. First, the basic skills and knowledge that have been identified must be analyzed. These are the essentials and should be attended to before any others. The basic knowledge and skills should be identified in each of the broad categories selected prior to this point. The needs analysis begins with these essential competencies.

Second in the order of priorities would be an updating of skills and knowledge beyond the basics. This would include any new methods of instruction, new curricula, or recent advances in the person's subject area specialization that would have relevance to the classroom. New methods and curricula would include not only those recently developed but anything which is new to the teacher not considered part of the basics referred to previously.

In each of the priority areas a further priority classification can be attempted. If a particular area has top priority, such as basic instructional skills, one should begin by identifying those where the need is the greatest, those that are used more frequently in the classroom, and those that have the greatest impact on pupils. It is extremely important to build the basic competencies and fill in major gaps in critical areas before expanding to other instructional skills or areas of need.

A process including a series of such priority determinations should be pursued. Once the set of competencies has been organized appropriately, the actual individual assessment is in order.

The needs assessment process may be approached in various ways, and one type of competency may require a process different from that used for another type. For example, knowledge competencies may be determined by the individual teacher examining the objective (e.g., knowledge of Piaget's developmental levels) and indicating whether or not he/she knows it. If the teacher is in doubt, then he/she should take a pretest associated with the instructional unit designed to develop the particular competency. Ideally, the teacher should pretest on all instructional objectives (competencies) as a type of needs assessment, but time may not permit this.

Another means of determining whether or not an individual possesses a competency and thus determine his/her need, is to examine the competencies and see that the criteria are, and use these to compare or analyze the work of the individual. For example, a competency in teacher-made test construction might list a number of criteria for properly written multiple choice questions. Some examples are:

1) present only a single probelm in the item stem,
2) put most of the wording in the item stem,
3) state the item stem in a positive form, if possible,
4) emphasize negative wording to avoid confusion,
5) be certain that intended response is correct and clearly the best,
6) make all alternatives grammatically consistent with the stem,
7) avoid verbal clues such as similarity in wording or in detail, or absolute terms in distractors,
8) make the distractors plausible
9) avoid use of "all of the above" and cautiously use "none of the above,"
10) vary the position of the correct response.

If the competency requires "ability to construct properly written multiple choice test items" the teacher might respond that he can and move on to other competencies. If, however, he/she compares his/her own test with the ten criteria, he/she may find that he/she has committed several of these errors. This will indicate a need to study (or re-study in most cases) this area and thus it becomes a deficiency as revealed by the needs analysis.

Other types of competencies, particularly those kinds that require a demonstrated proficiency in an instructional technique, cannot always be determined so easily. These require a needs analysis of a different type and will be briefly described here.

The self-check of a list of competencies would represent a teacher's perceptions of what he/she can or cannot do. Usually this will need to be supported by data of some type or a concurring opinion. This generally requires a sample of classroom behavior or a particular lesson in which the teacher intends to demonstrate a specific competency.

One method of providing this data is known as systematic analysis., Systematic analysis is a process which provides a reasonably accurate description of what has occured in the classroom, in terms of the categories included in the system. It is not an evaluation type of activity, it is a data collecting process which forms an integral part of an evaluative system. The data are interpreted in terms of the objectives established, and it is here where evaluation occurs.

The important point about systematic analysis techniques is that they provide reasonably objective data which can be used as part of the process. They may be used in self-analysis as well as by outside observers and, therefore, are flexible in application. It should be noted that each systematic analysis instrument is designed to collect certain kinds of information as designated by its categories. For example, one instrument will provide data on how frequently a teacher asks questions, whereas another instrument will be concerned primarily with the types of questions asked. This entire process and how some instruments are used will be described in detail in the chapter on evaluation.

Use of video or audio tape to collect data on what goes on in the classroom can also be used as part of the needs assessment. Some of the systematic analysis techniques require use of such media. Most people are quite surprised how different they "come across" when viewed from other people's perspectives. Video tapes in particular can be quite revealing and extremely helpful in identifying weaknesses in style or lack of certain competencies. Video and audio tapes can be part of self-analysis in a needs assessment.

Another method to assist in the needs determination is to keep records of what has occured in the classroom in terms of what has or has not been successful. These descriptive notes could be translated into competencies which would have been effective in that particular situation. Collectively, such notes could be of significant assistance in a needs assessment.

Other sources of information are the students in the classes of the teacher. The perceptions of those the teacher instructs on a daily basis should provide valuable insights and most likely valid ones. Students are probably in the best position to be aware of the teacher's strengths and weaknesses. Their observations are based on a prolonged period of contact with the teacher, indeed a representative sample of his/her teaching skill.

The student feedback may be obtained in several ways, both formal and informal. Students might be asked to list what they liked and did not like about the individual's teaching. Of course, some students might use this as an opportunity to "let off steam", but the cumulative results would have certain trends or consistency of results on some aspects of the teaching technique. Again, these could be translated into competencies and become part of the deficiencies listed in the needs analysis.

An informal method is to have conversations with various students to solicit their comments. This would provide an opportunity to delve into their perceptions in more depth, thus ensuring that one understands exactly what they mean. This also provides a chance to isolate the specific aspects of the area a student has identified and may be reluctant to write or unwilling to take the time to describe or really think about.

A more formal approach would be an instrument which lists the specific competencies. Students could be asked to respond to these either favorably or unfavorably as they perceive the teacher's skills. Again, those competencies receiving consistent negative reactions would be identified as deficiencies. Note that in this case specific information is provided as responses are directly tied to the predetermined competencies.

Classroom observation is probably the most frequently used method for assessing needs in classroom performance competencies. The self-analysis method was described earlier. Another method is to organize pairs of teachers who observe each other in a peer observation system. This approach is also one which presents a low threat situation. The teachers paired work closely together and in time know each other's teaching style and strengths and weaknesses very well. A cooperative examination of the list of competencies, checking those where deficiencies are noted, is based on more than a single observation.

An alternative method is to have a person or persons whose major responsibility is to observe teachers and assist in the needs analysis. This could be an administrator, supervisor, or someone specifically trained in use of observation instruments and is skilled in working with teachers in needs assessment procedures. Asking educators (or anyone) to recognize and accept deficiencies in their professional competencies is a difficult process and requires someone who is skilled in inter-personal relations and even counseling techniques.

An administrator or supervisor increases the threat factor in the process, but this depends to a considerable extent on the individual and his/her administrative or supervisory ability. On the other hand, a person designated to do needs assessment only has potential for becoming extremely adept at this activity. In addition, if his/her role is restricted to one of assistance, he will not be perceived as a threat, but rather someone who can provide genuine assistance. The major problem with having a person assigned to this task, of course, is that of cost.

Another possibility is to develop teams who are responsible for everyone in the group. The teams could consist of teachers, administrators, supervisors, trained observers, etc. Teams could be just groups of teachers or any combination desired. These teams would cooperatively develop a needs assessment for each member. One approach is to have each member observed by several members of the team by rotating visits. This provides a variety of perceptions and leads to a more realistic assessment of individual needs. If the atmosphere of the group is one of mutual support and assistance and an honest exchange takes place, this can be a viable approach to the needs assessment problem.

Two other methods can be used in the needs assessment process. One is to teach a mini lesson to a small group of students or peers (the team described earlier). This could be taped for analysis, or direct feedback from the "students" could be used. The purpose of the mini lesson is to focus on specific skills (questioning, etc.) as sort of a "pretest" on specific competencies.

Another approach is to establish short term objectives and try to teach toward these. The test results could be used as part of the needs assessment process. Both of these approaches, as well as most of the needs assessment techniques, can be used in the evaluation process and some will be described in more detail in that chapter.

INCENTIVES

Any program which requires individuals to invest large amounts of their time and energy must offer some incentives for these individuals to participate. Ideally, incentives would be internal such as a desire to learn and improve, a self-motivation. Other incentives are external, they are rewards offered to induce participation. Either internal or external incentives are necessary if the program is to work. The type of incentive, of course, will vary with the individual.

Even if a program is well designed and offers a variety of areas for study, it still may not attract participants unless some incentive is there. Sometimes inservice programs will bring in well-known speakers or offer interesting topics currently under debate within the profession. This might generate interest and attract many individuals, but this may be a misplaced incentive if the program does not really address the individual's needs. It may contribute to his/her professional development in some way, just as discussions with other faculty members in the lounge may add in some way to his/her knowledge. But the important difference between this and a planned program is that the latter addresses the teacher's needs, those things that are important or even critical to his/her instructional competence, rather than those that are incidental or useful only after basics are mastered.

The incentive to participate may be self-initiated if an inservice program really meets the needs of the individual. If it offers the reward of feeling that time has been well spent and something has really been learned or skills have been improved, then it will provide adequate incentives for most to participate.

A relevant and purposeful program is appealing to begin with. By including in this a program that is individualized and needs based, a significant dimension is added. The teacher will feel that the program is appropriate for him/her, not a group. This, combined with a desire to improve, will lead to greater participation.

Taking courses is the most frequent means of acquiring inservice credit. If a teacher does not pursue additional course work it is often assumed that he/she has no desire to improve. This is not necessarily true. Courses may not, and frequently do not, meet needs of individual teachers. Instead of being needs based the course offerings are dictated by the established curriculum at the teacher training institution, faculty assignments, and credit producing factors associated with faculty loads. In addition, the content of a course varies significantly between and within universities depending on the particular professor teaching the course. If a teacher is not taking courses, therefore, it doesn't necessarily mean that he/she does not want to improve. In addition, however, this does not mean that college inservice programs cannot be geared to teacher's individual needs. Some notable exceptions to the college inservice pattern have appeared recently and are promising.

Usually the thinking about inservice education is that the program is available and of some value, but the teachers are not interested. On the other hand, we must recognize that if a person wants to improve his/her instructional competence, but the program is not really worthy of his/her time, then there will be no incentive to participate even though there is an incentive to improve. If a program focuses on needs and has promise of leading to improvement, it has one of the strongest incentives built into the program.

Another incentive factor inherent in a meaningful inservice program is that it will make evaluation less threatening. If the teacher knows that weaknesses identified in evaluation will be reduced or removed as a result of inservice training, he/she will have less concern about evaluation. The frustration of having been told what your deficiencies are but not being able to do anything about it is significantly reduced. Viewed in reverse order, if the teacher feels that weaknesses have been strengthened in inservice training, he/she will face future evaluation much more confidently.

Another incentive is a portion of this inservice model that was identified earlier. If a teacher knows that he/she will play a major role in identifying what his/her needs are, and later selecting training appropriate to these needs, he/she will view inservice training more favorably. Instead of being something that has been imposed on him/her, it is something in which he/she has played an integral role in constructing. Having a personal role in the process thus provides a greater acceptance of the process and increased incentive to participate.

One means of encouraging involvement is to make it as easy as possible to participate in the inservice program. If the teachers are encouraged and find it relatively easy to enter into and pursue inservice training, the more likely it is that they will do so. Sometimes it is just a small barrier that stands in the way and the individual asks why he/she should bother. At times a small push is all that is necessary. Pointing out how easy it is to participate may provide that small push.

There are several ways to facilitate participation in the inservice program. One is to make the system as accessible as possible. The needs assessment procedure should be available to anyone upon their request with minimum of effort on their part. Even if a request is all that is necessary, if the individual must take the initiative this may reduce the number who participate. A simple procedure may alleviate this. A card could be circulated to each teacher on a periodic basis, say quarterly, which asks them to indicate if they are interested. This takes much of the initiative out of their hands.

Perhaps a more fruitful method is through personal contact. Teachers involved in the program, department heads, or supervisors could explain the program or relate their experiences with it. They could ask and encourage their peers to participate. This type of personal contact is generally much more effective, particularly if the peer has had a positive experience to relate. In this sense, the program must sell itself.

The training portion of the program must also be readily accessible. This is the most important aspect that should be available since it requies a greater portion of time than any other aspect of the inservice program. It should be flexible to fit any schedule, and ease of entering and exiting training segments should be characteristic of the training portion. This will be described in more detail in a later chapter.

Another factor which facilitates involvement in the inservice program is to require as little of the teacher's personal time as possible. This means the program must be deliverately structured to be as efficient as possible and to maximize use of the teacher's time available during regular school hours. Other time certainly may be essential but this, of necessity, should be held to a minimum.

Time commitments will depend upon the amount of inservice work the individual is engaged. The more training that is entered into at a given time, the more work is required and thus more time is obligated. The teacher should be able to pursue as much as he/she feels he/she can accomodate based on an assessment of the time he/she has available. Some control may be necessary to ensure that an appropriate amount of work is engaged in, it is easy to think one does not have enougth time. If the program can be tailored to individual time commitments program accessibility is enhanced.

Another approach to the time problem is to provide released time for inservice program participation. Some states require a given number of days for inservice development. This, of course, simplifies the time problem considerably, and addresses the larger questions of incentives. Participation is virtually insured, however, motivation and interest will still be dependent upon how good the inservice program is. An alternative is for the school district to provide or require a specific amount of released time for inservice professional development. Again, this certainly simplifies the process and reduces outside time commitment.

An additional factor which induces participation is that the inservice program is a low threat situation. Its purpose is not to force individuals, but to provide opportunities. It is not designed to identify deficiencies and use these in an evaluative way, but to improve the professional competence of the participant. An atmosphere of support and assistance should pervade.

In view of the poor reputation which inservice training suffers incentives have been related to the effectiveness of the program as a selling point. Part of the poor image is due to the ambiguity of some inservice programs. What is the purpose, process, and expected outcome? Some of these points have been discussed earlier. One other point is that the steps in the process should be clearly defined and made available. If an individual is considering (or required) to enter the inservice program, a clearly delineated process with each step described should be provided each participant or prospective participant.

A variety of other more tangible incentives should be considered. Perhaps the most obvious one is to relate such training to the salary schedule. Provisions should be made to allow an individual to advance on the scale dependent upon how much inservice work he/she has participated in. If the inservice program is based on needs, and if it is truly effective, the individual should emerge as a more competent instructor. On what better criteria should salary increments be awarded? Most salary schedules provide for advancement based upon courses, degrees, and/or an additional year of experience. These assume increased expertise. The inservice program hopefully could provide tangible evidence of growth, and thus warrants increased salary. Perhaps the other criteria should be scrutinized and reconsidered.

There are various ways of relating the inservice program to the same scale. One method is to award points for the various inservice activities. The number of points or "credit" would depend considerably upon the amount of time needed to complete the training for a particular competency. Other indices of importance or difficulty could be determined to assign a point value to each training program associated with a given competency or set of competencies. The time to complete training could be based on the average time needed to complete training. If a particular individual needed more or less time, he would still receive the same amount of credit as everyone else.

One problem with assigning point values is that this may preclude equal opportunity for advancement on the salary scale. Those who need the most help will have more opportunities for credit, and most likely will need to work on those competencies and training that offer more credit. There are two ways to avoid this. First, if training for a competency is given more credit, it should take longer to acquire if appropriately credited. This should be carefully monitored to avoid inequities. Those individuals who are working on competency training receiving less credit should take less time to complete these and could then pursue additional training. In an approximately equal period of time, therefore, equal credit would be earned by both individuals. In time, the inequities should be detected and adjusted.

A second method to insure equal availability of credit or points, is to have sufficient advanced training available for those who already possess the basic competencies. This would provide opportunities for extention of competence to advanced skills and knowledge and new areas of specialization such as curriculum development. Once all identified basic competencies have been attained by a teacher, and the advanced training programs have been exhausted, it is possible to still provide incentives. This unique teacher could be assisted in designing novel experiences, with associated useful competencies and criteria for the experience. Point values could be assigned to these by a committee or team responsible for such activities. The important point is that once training is assigned value units, and these are tied to the salary schedule, equal access and potential credit must be insured.

An additional method which has been used is to award some type of district certificate. Certificates could be based on groups of competencies. Basic competencies could constitute the original or basic certificate. The basic set and a more advanced group could be required for a second certificate, and so on. Salary increments could be tied to certificates instead of points associated with each training program.

One state has taken an approach similar to those previously described. Renewal units have been designated as the value unit, and these are required for re-certification. Every so many years (five, for example) a given number of renewal units must have been achieved. Local committees determine what is allowed credit as a renewal unit and how much credit is allowed. The relationship between these and the needs assessment, however, must be maintained.

Another incentive is to tie the inservice program to a degree program. This requires the cooperation of a recognized teacher training institution that is approved or accredited to award a degree. Actually, advanced training at institutions, if focused on improving instruction, should be tied to teachers' needs anyway. Such a relationship would be beneficial to the institution by making its program more relevant and providing opportunities for working with the schools and becoming involved in inservice programs. In addition, the relationship's benefit to the school and the individual are obvious.

A final method for additional incentive is to offer opportunities for those who have mastered the competencies to assist others in achieving these. Such individuals could become trainers of other teachers with the unique quality of being able to do that which they are trying to teach others to do.

A number of approaches to providing incentives have been described. A given district will need to determine which method best suits their situation. A combination of these methods is one other possibility or new ones may be invented. Whatever the final choice, it is important to provide incentives whenever possible.

DELIVERY SYSTEM

In the previous pages the need to develop inservice programs which are based on teacher's needs and are individualized was discussed at length. The specification of competencies was a first step in the process, and these competencies provide a frame of reference for further development of the inservice program. An analysis of needs based on the described competencies then provided for an individualized training program.

Having described the needs of a particular individual, it is necessary to develop a training program which is suited to the individual. This is accomplished by designing instruction which is directly related to the specific needs identified. In a sense, the training program becomes a prescription to strengthen the educator's weak areas as described by the needs assessment.

What type of system is needed to deliver training programs which address individual needs? Certainly, the nature of this program is significantly different from what is generally encountered in inservice programs. In many respects, however, the program will be similar to the usual inservice program because of practical considerations which are utilized by traditional inservice approaches, such as group instruction.

A key component in the required delivery system or training program, and a feature which distinguishes it from traditional approaches, is the variety of alternative instructional means which should be available. If the program is to meet a wide range of individual needs, then it must be able to respond with instructional methods appropriate to the objectives (needs) of the teacher. Not all needs can be approached by the same instructional technique. Either classroom observation, small groups, or individual study may be appropriate for a particular objective, whereas another objective may require peer teaching or group instruction . With such a broad range of competencies, and a large number of teachers needing skill development in different competencies, the system must be able to provide a number of different training approaches if it expects to meet each individual's needs.

Another aspect of individualization should be considered in designing the delivery system. Each teacher has his own preferred method of learning, the way in which he probably learns best. Some may prefer programmed units in more of a self-study approach to learning. Others may desire group discussion or lecture type approaches to instruction. This implies that for a given teaching competency which may have been identified as a need for several teachers, alternative means for acquiring the competency should be available when possible.

A number of factors, therefore, determine the nature of the training program. The number of individual's needing a particular competency, the requirements of the competency itself, and the individual's choice of training style, require a variety of alternative instructional techniques. The delivery system must have this characteristic.

The basic approach to the design of the delivery system is to develop training around each of the competencies or clusters of competencies when appropriate. The varied modes of instruction leading to the competency are presented as alternatives for the teacher to select from. Evaluation of the competency, regardless of the learning approach, is based on the stated mastery level for the competency.

The problem of designing a delivery system with alternative modes of instruction is the same problem that faced the developers of competency-based preservice programs. An instructional system utilized by most of these programs is the module approach. This instructional format is designed to provide for individualized education, is based on competency statements, and offers alternative modes of achieving the competency.

A module may be defined as an instructional unit designed to enhance student achievement of a specific stated objective or objectives. The basic elements of a module are typically as follows: rationale, prerequisites, objective(s), pre-assessment, alternative learning activities, post-assessment, and retraining activities. Each of these elements will be explained in turn.

The rationale is a statement of the purpose and importance of the objective of the module. It provides the student with a description of the need for the student to acquire the objective, which may be a theoretical or practical purpose. The rationale may also include the basic assumptions upon which the objective is based, such as some statement about the teaching-learning process and how the objective fits this context or is derived from it. The rationale also provides some indication of sequence, that is, the relationship of the objective to others in the total program.

It is important that the objective be viewed from the broader perspective of its relationship to other program objectives and the total teaching act. One of the criticisms of a competency-based and module approach to teacher training is that it breaks teaching into bits and pieces, and the sum of these parts does not equal the whole. An integrated, conceptually based teaching style or process is essential. In order to guard against such criticism, therefore, the rationale should keep the specific objective in proper context.

Briefly stated, the rationale provides a description and justification for the objective of the learning module. The intent of this is that the student, having understood its importance, will more readily accept the objective and "internalize" it and thus more readily work toward and achieve the objective.

The next element in the module is a statement of prerequisites for the objective of the instructional unit. Some writers prefer to state the objective of the unit before specifying prerequisites. The order of these two elements is not important, however, and they may be interchanged merely according to one's preference.

A statement of prerequisites provides the learner with a clear idea of whether or not he is prepared or capable of attaining the module objective. Prerequisites are the necessary knowledge and skills one needs in order to understand or perform subsequent steps. Ideally, the prerequisites should be stated as competencies. This not only provides for continuity with other portions of the inservice program, but it offers the learner a better definition of what is really needed before pursuing the module objective. Vaguely stated prerequisites may either imply too much or too little, and in either case, this could cause wasted time for the learner, reducing the efficiency and effectiveness of the system.

There is a tendency to let the format dictate the nature of the module content, that is, module developers will strive to find something which will fit under the prerequisite section. It is important to realize that there may not be any prerequisites that need to be identified. This would still be a "legitimate" module. In fact, it is desirable to have as few prerequisites as possible in order to simplify the inservice program, maintain flexibility, and provide for ease of entry into and exit from segments of the program.

The prerequisites should only be cited if they are essential and if they are professional level skills. For example, use of fractions may be essential for a module in mathematics, but if it can be assumed that this is usually a part of a teacher's basic skills, then it need not be cited.

If the needs assessment has been well defined, and prerequisites are stated as competencies, then it should be possible to match the competencies of the inservice program with the prerequisites. If the individual has achieved the prerequisites as indicated in the needs analysis, then he may proceed with the module. In practice, however, it may not be so easy to state precise prerequisites that match the program competencies list.

When there exists a sequence of related competencies, as frequently found in subject matter areas, then it is possible and even necessary to state prerequisite competencies. An example might be the study of systematic instructional techniques. In order to relate instruction and tests to objectives and understand how such a system functions, it is necessary to understand how precise objectives should be written. The skill would be a prerequisite.

As indicated earlier, if one is in doubt as to whether or not he has the prerequisites, a pre-assessment may assist in this determination. Also if a previous module was based on the skills identified as prerequisites, then that module's post-test might be used to determine achievement of the preliminary competencies. Finally, if one believes he may not have the prerequisites or merely needs to "brush-up" on these skills, resouces for developing them should be identified.

Probably the most important element in the module is the statement of the objective or objectives. Again, some prefer to put the statement of the objective in a different order, but this is not significant. Modules have varying numbers of objectives, ranging from one to several. Actually, the number of objectives is a function of the specificity of the competency. Those stated in general terms may have several objectives, or enablers, which are part of the module. For example, being able to use questions effectively is a general competency which would have several sub-competencies such as use of analysis, synthesis, or evaluation type questions. For the purposes of discussion, we shall assume one objective per module.

The objective of a module should be a competency identified by the staff or committee earlier in the process. This approach was described in a previous section. The module is offered here as one means of achieving the competencies stated earlier. The goal is to attain the stated competencies, and the module is a method specifically developed to provide the individualized objective referenced training. The competencies are the reason for developing modules, and hence are the core of the module.

The various means of deriving competencies, such as development of a theoretical base and expected pupil outcomes, was described in detail in a previous section. The methods of stating competencies (specific, general plus performance criteria, etc.) were also described. The various types of competencies, however, such as cognitive and affective, were only briefly mentioned. A more complete description is appropriate at this point.

A variety of types of competencies have been referred to in the professional education literature. Knowledge type competencies are, of course, the most frequently encountered. Knowledge objectives (competencies) of modules may be knowledge of subject matter areas (math, science, etc.). These are particularly important for expanding the information base of elementary teachers since they must deal with such a broad scope of subject areas. Another area of knowledge is that of teaching. Knowledge of teaching skills is a necessary prerequisite to effective implementation of these skills. Knowledge competencies can be developed for each of the other broad areas for which competencies have been defined as out-lined previously (e.g., curriculum development, inter-personal relations, etc.). These knowledge competencies are generally referred to as cognitive objectives which include knowledge and higher order through processes.

Teaching performance or instructional skills are another major type of objective. These are the actual teaching behaviors required to be demonstrated. In many cases these are supported by prerequisite knowledge objectives, and are perhaps the most important types of objectives.

Another type of objective which has been identified by many authors has been named affective. This deals with the attitudes, personal attributes, feelings, and inter-personal relationships which affect the teacher's role in the school. These kinds of objectives go beyond the instructional context, they include the teacher's total inter-personal relationships in the school, including other staff, community, and parents, in addition to pupils.

Some maintain that affective objectives are part of the instructional process, that dealing with kids emotionally and socially is so much a part of the instructional process that it should not be separated as a unique category. Certainly it is a major portion of teaching kids, and thus, those affective objectives which apply to working with children should be developed along with related instructional skills. Other affective objectives, however, may be identified and developed separately. It is not really important under which category an objective is placed, as long as the essential ones are included somewhere. These categories are merely suggested to assist in the development of objectives and are not important in of themselves.

A familiar category in the classification of objectives is the psycho-motor area. This includes such things as manipulative skills. Perhaps the most obvious class of activites which fit this category are those associated with use of audio-visual equipment. Use of a video tape recorder to produce a clear five minute segment of videotape is one example. Use of movie projecters, etc., are other examples.

Additional examples would include manipulation of musical instruments as cited earlier. Industrial arts also certainly has much within this category. Another area relates to those subjects which have laboratory sections associated with them. Science instructors are required to set up labs, prepare materials, and demonstrate use of equipment.

All of these might be considered "psychomotor" type objectives or competencies. An additional type of objective can be stated in terms of the effect of instruction on pupils. As described previously, the pupil outcomes could constitute the criteria for a given teacher performance or competency. The rationale behind this type of objective is that if the teacher performs the teaching skill appropriately, students will respond as expected. If students do not respond correctly, the teacher probably did not perform the skill adequately, assuming no unusual circumstances. These student outcomes vary from following simple directions to demonstrating higher levels of thinking or displaying positive attitudes to particular subjects.

A number of problems with this approach were discussed earlier, nevertheless, several teacher preparation institutions utilize this type of objective in their programs. An example given earlier was one that required the teacher to enable four of six fifth grade pupils to master all the multiplication facts (1 x 10) X (1 x 10) and complete them on a paper and pencil test at a rate of 30 per minute. The criterion was 90% accuracy by at least four pupils within four weeks.

The main problem cited with this approach is that usually we have no evidence that particular skills will produce specific student outcomes, and therefore, cannot judge a teacher's ability to perform a particular competency on the basis of the students' actions. Others will argue that they are not concerned with how he does it, i.e., what teaching skill is demonstrated, but only if he can produce results. These results are the objectives as well as the evaluative criteria of the module.

A question that remains, however, is whether or not the training was able to provide the teacher with ability to allow kids to achieve the objective. In a training context the program is accountable for providing the necessary training, but again there is no evidence that training of a particular kind or on a particular skill will produce the required student outcomes.

Some programs have identified one additional type of objective. This type of objective only requires some kind of observation or participation in an activity. As pointed out earlier, these kinds of activities may certainly be profitable, but the outcomes of these experiences need to be defined. The experiences themselves are enabling activities or methods of attaining some objective. In addition, where in the process of establishing what one needs to be able to teach effectively does "observing another program" fit in? Also, where in the analysis of one's teaching skill does one see a lack of "observing another program?" These fit in only as they lead to a competency itself.

The specifics of how to write an objective for a module were detailed in a previous section. One point might be made again. Competencies can be written at varying degrees of specificity, they are not always specific behavioral objectives as commonly believed. Certainly specificity is desirable when possible, particularly in training modules and in the knowledge area. There is the possibility, however, that many objectives cannot have precise criterion levels expressed in frequencies of occurence of percent correct. Professional judgment will be necessary in those instances, and the competencies are equally important as those more precisely stated.

The pre-assessment element of a module provides an assessment of the learner's (again remember that a teacher is the learner in programs) readiness to engage in the learning activities leading to the module objective. Whenever prerequisites are listed, and if indeed they are vital, it should be determined whether or not the individual possesses these. This can become a very combersome process, however, and ways of reducing this should be explored.

First, recall that prerequisites should be listed only when it is essential to do so. Competencies in sequence are one example of when it is necessary. Most modules may not have prerequisites, and thus, the task becomes less formidable. Second, pre-assessment techniques do not always need to be complex formal activities. Third, when prerequisites are the objectives of previous modules, the post-test or successful achievement of the previous module is sufficient as pre-testing. Fourth, in the needs analysis process, certain prerequisite competencies may have been identified as being demonstrated by the teacher. This also constitutes a pre-assessment may become a part of the needs analysis approach, particularly when there is some doubt about the competencies. All of these factors help reduce pre-assessment (and the inservice program) to a more manageable task.

Another important function of pre-assessment is to determine whether or not the individual has already attained the objective of the module. This is the more commonly understood purpose of pre-assessment, particularly in competency programs where individualization and exit requirements are emphasized. When a module contains several enabling objectives, the pre-assessment can be diagnostic to the extent that it indicates which enablers have or have not been attained. This assists the individual in knowing where in the training module he should enter.

The second function of pre-assessment offers the opportunity for an individual to test out of module when he has already mastered the objective. Thus, if a needs assessment was inadequate, the pre-test allows for the demonstration of the competency and avoids unnecessary time spent in the training program. This ensures a more individualized program.

Again with a concern for time, it should be noted that when there is noquestion in the learner's mind that he does not have the competencies that are objectives of the module, then this portion of the pre-assessment need not be required. The total pre-assessment procedure should be realistic in regard to time.

One means to approach reducing time is to consider many alternatives to the task of pre-assessment. Both formal and informal appraoches should be considered. Although the pre-assessment will depend to a certain extent on the nature of the competency, there are several possible techniques, including the following: written tests, oral tests, demonstrations, problem solving, observation by peers, or discussions with an advisor of faculty member.

The next major element in a module is the training material. These are all the activities, strategies, and materials which enable the learner to achieve the objective of the module. These learning activities, or enablers, must of necessity be developed around the particular competency which is the objective of the module. This is the factor which provides for an inservice program which is relevant to the individual. Training is focused not on topics but on the objective which has been identified as a need of the individual.

An important aspect of the training portion is that learning alternatives are provided. This means that more than one means of achieving the objective is available to the learner. As many alternatives as is possible or feasible should be made available. The purpose of this is to again individualize or personalize the learning process. The alternatives should provide for individual learning styles or preferences, capabilities, and learning rates. This means allowing self-pacing as well as self-selection of training mode.

The important point to remember about training alternatives is that they are designed to facilitate and enable the learner to achieve the objective. If the learner has an alternative means of achieving the objective he should be allowed to pursue it. He is held accountable for the competency, not the training method. Previously we considered the example where a teacher may wish to observe another's class or take a trip to observe certain things. There is no reason why this cannot be done, as long as the objective is eventually attained. Going through the training process is not the objective, attaining a competency is.

There are many types of training materials which can be used. Both individual and group activities would be options, and a variety of each of these are possible. Some of these will be discussed in more detail later in this section.

Post-assessment techniques are very similar to pre-assessment approaches but are generally written in more detail. The post-assessment plays an extremely critical role in the entire process. The post-assessment is meant to determine whether or not the objective of the module has been attained, and is thus built around the objective. In view of the fact that an individual can choose from a variety of alternative modes to attain the objective, one of which may be his own suggestion, and that he is not accountable for engaging in the instructional process, the only guarantee that the individual has attained the competency is through the post-assessment. This is, therefore, a very critical component of the module and the entire training process.

The post-assessment process is an evaluative process, but at the same time it could be diagnostic (to the extent that a summative evaluation instrument can be). Not only does it determine whether or not the individual has met the mastery criteria for the particular competency, but also if not, what his weaknesses are and thus where he may need additional work.

As described earlier, assessment (both pre and post) will vary depending upon the nature of the competency or module objective. When competencies are stated as behavioral objectives, a more precise evaluation is possible. Evaluation will be discussed in detail in the next section.

A final step closely tied to the post-assessment is retraining. If an individual completes a training alternative and fails to pass the post-assessment, it is necessary to "recycle" him and provide him with additional training. Usually, he does not require retraining in the entire process, but in a few sections or components of the competency. Retraining would thus only be in relation to these areas. Again, training is based on needs only and is thus more efficient.

It was mentioned that an important part of the module is that it have alternative modes of instruction. What are some of these alternatives? First, it should be noted that both group and individual training need to be provided. If sufficient numbers of teachers require training in a specific competency and request group instruction, then a class could be formed. Small groups might wish to meet and work on deficient competencies which are common to them. In some cases groups are necessary for instruction, such as peer teaching.

A variety of individual instructional modes are possible. Selected readings from various books, other written materials, slide tape units, video tapes, programmed units, films, field experiences, etc., are all possibilities. These enable an individual to opt for large or small groups, or individual study. It provides for self-pacing and accessibility at any time, providing flexibility to meet any teacher's schedule.

Two types of instructional means have been used extensively in competency-based programs. One is the use of filmed episodes which depict a concept in action, usually in a classroom situation. These have been called protocol materials, and a number of these have been developed to support competency-based and other training programs. These films are designed to provide real life examples of concepts and are presumed to be more meaningful than verbal descriptions.

Another well-developed approach that fits competency training extremely well is microteaching. This training approach is designed specifically to develop teaching performance competencies, as opposed to knowledge competencies alone. The concept of microteaching was originated in 1963 at Stanford University as an attempt to produce a more effective method of training prospective teachers. It began as a demonstration lesson technique and evolved into the current practice of focusing on one skill at a time. Approximately twenty instructional skills have been identified and are developed in microteaching sessions which are short-term concentrated teaching encounters.

The lesson is taught to a small group of from three to ten students, sometimes using peers and sometimes real students. The time of each encounter varies from four to twenty minutes. This 'mini-lesson" is an attempt to reduce some of the complexities of the teaching act, thus, providing for concentration on selected aspects of teaching. Usually, one episode includes teaching a mini-lesson and receiving immediate feedback on the teacher's effectiveness. The feedback may be from video tape recordings, supervisors, peers, pupils, or self-evaluation. The teach-critique-reteach cycle is the critical factor in microteaching.

Some of the skills which are developed in microteaching sessions are: fluency in asking questions, establishing set, illustrating and use of examples, providing feedback (reinforcement), use of probing questions, varying the stimulus situation, and achieving closure. This approach is consistent with the competency-based concept, and is certainly a useful technique to include as part of the training program.

Designing, building, experimenting, and revising are all steps in the process of developing modules. The designing process was essentially described in the preceding pages. This includes outlining the format and procedures for building modules. Once this process has been outlined, the procedure becomes more efficient and a consistency of format is provided.

Building modules is a time consuming and arduous process, particularly if not approached in a systematic coordinated fashion. It may be advantageous to involve staff in the development of the modules and the training program. Currently, many competency-based pre-service programs are involving teachers in defining competencies and revising modules.

The objectives are derived from the list of competencies developed by the district. This may be considered part of the module building process. A module will need to be developed for each of these competencies to ensure available training for any teacher identifying a need consistent with the competency list. For needs beyond the list training or learning experiences will need to be developed as the need develops.

Another necessary step is to design alternative training procedures for each competency or module objective. For some objectives many alternatives can be determined, while for others, it is much more difficult. Content for the module must be selected, and for each alternative, the sequence of training must be specified, and the training materials need to be identified, acquired, and organized so they can be made accessible to the learner pursuing the module. The various materials must be approximately equivalent if they are to lead to the same objective and if they will be evaluated on the same criteria.

In some instances alternatives and supporting material will have to be developed by the district. Although many filmstrips and tapes and fairly comprehensive series of books related to competency development are available commercially, the occasion may arise where special materials are needed to meet local needs. Considerable more work is needed in such instances, and time considerations must be accounted for.

Once modules have been developed and are ready for use, it is necessary to "pilot test" these in whatever way possible. Perhaps the most direct way is to have an initial group of teachers work through the modules and see if they indeed reach the objective. If not, it is important to determine what aspects of the training were inappropriate. In addition, reactions of the teachers are extremely useful in determining areas of weakness. The next step is revision of the module.

An important activity which is necessary prior to major revision is more extensive module evaluation. As increased numbers of learners complete the modules, more and more data is accumulated on the effectiveness of each training alternative, the criterion levels, time for completion, and reactions to the modules. If many individuals have difficulty with certain alternatives or modules, hopefully the specific problem areas can be identified for module revision.

The final step in the process is revision of the module. Certainly after pilot testing revision is necessary, but it will take additional time to discover others which must be rectified. Also, revision will be necessary as competencies are changed. Revision of modules is an ongoing continuous process, and the regenerative nature of the program is one of its main strengths.

The use of modules and various training alternatives were described in detail. Although the module is a relatively new concept, this does not mean that traditional modes of instruction cannot be incorporated into this approach. In fact, it is expected that they would be whenever appropriate. For example, an additional source of input frequently used in inservice programs is to bring in consultants who are specialists in particular areas.

The use of modules has been identified as an appropriate mode of organizing instruction for competency oriented inservice programs. It is also important, however, to discuss what the characteristics of the entire delivery system would need to be. Earlier, several aspects of the program were pointed out. The need for an individualized component was responded to by the module portion of the delivery system. Another important part of this, however, is that the program must be accessible. The importance of this aspect was discussed in the section on incentives.

One means of providing an inservice program that is accessible is to establish a teacher learning center. The purpose of the center would be to provide a place for teachers to go for inservice study. The center could be the location of large and small group study, but its primary importance would be in providing a central location for individual study.

An important component of the teacher learning center is the collection of resource materials. It is in this center that all the training modules have been accumulated and catalogued, available to any teacher who needs them. The individual could identify the module he needs to work on, and the materials could be checked out for study either at the center or elsewhere. Since many individuals may need particular materials, either multiple copies or restricted time periods for loan may be necessary. Since there are no time restrictions on completion of modules, however, there may not be peak periods of use as experienced in some preservice programs where semesters and quarters are still utilized for registration. The end of the school year may be a problem, but perhaps the center could be open during summer months also, which might alleviate this potential problem.

The center must have all the necessary support equipment to deliver the training identifed in the modules. Filmstrip and slide projectors, audio and video tape recorders, movie projectors, rear screen projectors, and individual study carrels would be necessary. In other words, anything necessary to pursue training specified in the modules.

It would be useful if there were a classroom available in the center which was suitable for videotaping teaching sessions without excessive interruption of the teaching. This "studio" could be used for microteaching as well as larger group practice instruction. Some evaluation could take place here also.

If possible, the equipment should be available for check out by the teachers. If someone wishes to study more extensively a videotape of his practice lesson, equipment should be accessible for home use. Of course, this may be difficult but not always impossible.

An example of how the process works may be useful at this point. A biology teacher has had a needs analysis conducted and he has identified target competencies or priorities on his list of weak areas. At his convenience he procedes to the teacher learning center and checks out the module related to his first target competency. This may be during school hours, after school hours, or during inservice training days that have been designated. For example, instead of going to a local university at night, he could go to the center right in his own school or district.

The teacher may utilize the materials right there in the center. Assume that a slide-tape unit was one alternative leading to the objective. A study carrel with a rear screen projector and head phones is available which he utilizes to study the module. If he wishes to study further, he checks out equipment overnight. Probably equipment would be limited so it may only be available for check out after hours. If a carrel is not available (the district cannot afford to purchase this) all that is needed is the equipment and an empty room.

The teacher may also easily identify others who are studying the same module. If he wishes to discuss it with others, these names should be available to each learner. In addition, a consultant might be available at all times in the center to discuss any questions or problems which arise.

Also, if group instruction is desired, the teacher may sign up for it for a given module or competency. When sufficient numbers are available, a class could be formed. In the mean time he may pursue another objective.

One means of supporting such a system is to coordinate the inservice program with preservice training programs. The center could be used for some preservice training and coordinated with field experiences being conducted within the district. Some of the teacher centers in Texas (Dallas) utilize this approach. There are possibilities here for school-college cooperative funding or state support. This also provides an opportunity for colleges to assist in or contact for preservice programs. Also, the supervisory skills can be improved for student teacher supervisors in the schools.

The above ideas are only suggestions. Certainly other methods or systems are possible, as well as refinements of these ideas. The important point is that the training is as accessible as possible.

EVALUATION

The preceding steps in this inservice program were the specifying of competencies, conducting a needs analysis, and providing training based on those needs. It is next necessary to determine if the training was indeed effective and the individual is utilizing the techniques in the classroom.

Evaluation can focus on various objectives, that is, it can look at several aspects or expected outcomes. Among the areas to be evaluated are the training process itself, the attainment of competencies after training, the retention of competencies over time, and the ultimate effect on pupils that the competencies have. These areas are all closely tied together, and evaluation of one area may serve as part of the evaluation of another.

The nature of the evaluation process is affected by a variety of factors: the nature of the competencies such as the manner in which they are written, the areas the competencies deal with, and who is involved in the evaluation. Each of these plays a unique role in the total procedure.

As noted in an earlier section, there are various ways in which competencies can be stated. Perhaps the most frequent format is to write competencies as behavioral objectives. In this case, the teacher outcome is expressed as a specific performance or behavior together with the conditions under which this is to occur and the criteria for assessing when it has been achieved. Evaluation in this instance involves the application of the master criteria to the performance. In the knowledge area this is a relatively simple matter. Usually the criteria contain a number or frequency which is required.

Examples are achieving 90% on a written test, or citing three examples of a concept, or by demonstrating each step in an instructional process.

The more specifically one states the criteria for achievement the more objective the evaluation becomes, i.e. there is less interpretation necessary as to whether or not a competency has been achieved. This also tends to produce more equal evaluations between evaluators and from one situation to the next. In addition, the student is more aware of the specific factors that he must demonstrate in order to effectively meet the competency.

The second approach to stating competencies is to indicate the behavior in more general terms, instead of a precise behavioral statement. The competency statement also contains a level of mastery although in this instance it is not in such precise terms. The example given earlier was "the teacher would be able to use a variety of teaching techniques appropriate to needs of the situation."

Evaluation of this type of objective is not as precise as in the previous example of specific evaluative criteria. In this case considerable more professional judgment is required to interpret the learner's activities in order to determine whether or not he has successfully demonstrated the competency. For example, what constitutes a variety of techniques, and what is appropriate to needs of the situation? Can more specific criteria be specified without severely restricting the teaching performance? Although evaluation is easier with more specific criteria, the evaluation process should not dictate the nature of the competency, rather, it should be vice versa.

As noted earlier, an important factor in the evaluation process is whether or not one is attempting to determine if the teacher can perform a competency or whether he will be required to utilize it in his usual classroom instruction. In the first situation the teacher may be asked to demonstrate a teaching skill before an evaluator or a group of peers. This requires no interpretation of the context by either the teacher or evaluator, unless a situation has been described to the teacher. The evaluation is in the training session only, such as paper and pencil test or demonstration. Also, more specific evaluative criteria are possible. A second type of evaluation of focused on "Can one perform a task", is to have the teacher plan for and demonstrate the skill in his classroom. Since this is planned the situation may be structured to introduce the teaching skill appropriately. The context is a factor but unless something unusual occurs, it may not be significant.

When the evaluation calls for utilization of a competency in normal classroom instruction, then the evaluation process becomes more complex. The situation is complicated by the variety of factors which occur in the classroom. In order to determine if appropriate skills are used one must take a much larger sample of teaching behavior in order to be certain that the skill not only can be used but is being used.

The nature of a competency, such as its specificity and context of evaluation, have a significant influence on the evaluation procedure. The area that the competency relates to is also of importance. If one is dealing with knowledge competencies, the evaluation can be very precise and paper and pencil can be used to evaluate mastery. In this case, it is likely that the competency was written in precise terms anyway.

One means of evaluating the knowledge area is a direct comparison with the evaluative criteria. Since knowledge competencies are usually specific and have specific criteria, these can be the criteria for a written exam, or can be used to evaluate the teacher's work, such as a test that has been constructed by the teacher for his students.

In previous paragraphs it was pointed out that evaluation which calls for utilization of a competency in a classroom setting, the evaluation process becomes more complex. It is necessary to take a large sample of teaching behavior in order to adequately evaluate the skill. There are various ways of evaluating classroom skills, such as through student feedback or observation in the classroom.

Observation or analysis of the teaching endeavor can be of a formal or informal nature. Both methods can be productive providing that the idea is approached properly. Many techniques have been developed for a more formal or deliberate analysis of instruction, and these techniques are collectively known as systematic analysis methods. These are systems which have been developed into instruments and are designed for classroom observation. These instruments have been devised to provide the observer with a more objective means of describing classroom interaction. Most of these systems deal with the teacher's behavior, the teacher-student interaction, or student-to-student interaction.

Some systems deal with the overall climate of the situation and attempt to provide a total view of what goes on in the classroom. Others focus on some particular but critical aspect, such as questioning techniques. In either case, a more accurate picture results because of the systematic nature of the observation.

There are several types of systems which are designed for different purposes and collect different kinds of information. Most systems concentrate on the verbal interaction in the classroom. The assumption is that the verbal behaviors of the teacher are those that will have the most effect on the students. Also, they are easy to observe and record.

The non-verbal behaviors of teachers have also become the focus of some observation systems. Much attention has been turned to the potential influence of these behaviors and has led to their systematic observation. We usually are less conscious of non-verbal behaviors and their effect on the students.

The method of these systems is to devise categories of interaction into which various events can be classified. The categories must provide for all types of interaction yet should not overlap. Usually the interaction is classified periodically over a certain period of time such as three seconds. Some systems use episodes or events as the recording unit. In either case, the total classroom interaction is sampled by the frequent recordings.

Perhaps the most widely used system and the one which has provided the basis for development of most of the other instruments is the Flanders Interaction Analysis System[10] (figure 2). The Flanders system consists of ten categories which are classified into three general areas. These three general areas are teacher talk, student talk, and silence or confusion. All classroom discourse must be covered by these three areas. Note that this system is concerned with verbal interaction only.

The first area, teacher talk, is set up to describe all of the teacher's verbal behaviors in the classroom. It includes seven categories of teacher talk. The first four categories are clustered under the specific heading which is labeled "indirect influence." These four categories are: teacher accepts student feeling; teacher praises or encourages; teacher accepts or uses ideas of students; and teacher asks questions.

The second heading of teacher talk is labeled "direct influence", and contains the following three categories: teacher lecturing; teacher giving directions; and teacher criticizing or justifying authority. These seven categories do not overlap and should include all possible teacher verbal behavior. The relationship between the direct and indirect teacher influence is an important one that will be discussed again later.

In addition to teacher talk, a second general area is student talk. Student talk is divided into two categories: student talk-response; and student talk-initiation. The third general area has only one category and is labeled silence or confusion. This completes the ten categories of the system.

In the Flanders system of interaction analysis all verbal statements are classified at least once every three seconds by a trained observer. The number corresponding to the category in which the verbal behavior is classified is recorded by the observer. For example, during the last three second interval the teacher used a student idea, the observer would record the number three, the category for teacher use of student ideas. Obviously, the observer must have a working knowledge of the categories and their respective numbers. A thirty second block of time may have been categorized as follows: 5,6,4,8,5,4,8,3,5,10.

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[10] Ned Flanders, Teacher Influence, Pupil Attitudes, and Achievement, U.S. Office of Education Cooperative Research Monograph No. 12 (Washington: U.S. Government Printing Office, 1965).

FIGURE 2

Interaction Analysis in the Classroom: A Manual for Observers

By Ned A. Flanders

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CATEGORIES FOR INTERACTION ANALYSIS

TEACHER TALK	INDIRECT INFLUENCE	1.* ACCEPTS FEELING: Accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
		2.* PRAISES OR ENCOURAGES: Praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying, "um hm?" or "go on" are included.
		3.* ACCEPTS OR USES IDEAS OF STUDENT: Clarifying, building, or developing ideas suggested by a student. As a teacher brings more of his own ideas into play, shift to category five.
		4.* ASKS QUESTIONS: Asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	5.* LECTURING: Giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions.
		6.* GIVING DIRECTIONS: Directions, commands, or orders to which a student is expected to comply.
		7.* CRITICIZING OR JUSTIFYING AUTHORITY: Statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		8.* STUDENT TALK-RESPONSE: A student makes a predictable response to teacher. Teacher initiates the contact or solicits student statement and sets limits to what the student says.
		9.* STUDENT TALK--INITIATION: Talk by students which they initiate. Unpredictable statements in response to teacher. Shift from 8 to 9 as student introduces own ideas.
		10.* SILENCE OR CONFUSION: Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

*There is NO scale implied by these numbers. Each number is classificatory, it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

FIGURE 3

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4								1		
5										
6										
7										
8										
9										
10										

By having recorded the dialogue in such a systematic fashion a somewhat precise description of the classroom interaction is now recorded. In addition, the sequence of verbal events is kept intact through the series of numbers corresponding to events during each time interval. This provides information in terms of such things as which teacher comments lead to what kind of student response and how long the response was. Evaluation can now be based on accurate data.

As a means of processing the data, Flanders devised a ten-by-ten matrix with the ten categories serving as headings for each column and row. The ten-by-ten matrix thus contains 100 cells such as the 3-1 cell, the 3-2 cell, etc. All of the recorded data is set up into consecutive pairs and then placed in the proper cell of the matrix. The coded time period referred to earlier would be broken into these pairs: 5-6, 6-4, 4-8, 8-5, 5-4, 4-8, 8-3, 3-5, 5-10. A 4-8 sequence, for example, would be placed in the 4-8 cell of the matrix (figure 3). This provides a systematic and convenient way of tabulating the data.

Several meaningful items of information can be derived from this process. First of all, it is very easy to determine the percentage of any category during the entire lesson. In other words, one can ascertain the amount of the total time spent on lecturing by the teacher. One can also determine the total amount of time spent on lecturing by the teacher. One can also determine the total amount of time that the teacher talks as opposed to students talking. Also of importance might be the length of teacher questions and student responses. A series of short interval question-answer sequences may indicate factual or knowledge level questions and answers.

What about the teacher's direct or dominant influence (lecturing, directing, criticizing) as compared to his indirect or, freedom conducive influence (accepting, praising, encouraging) questioning? This too can be derived from the matrix. All information derived is factual and comprehensive. It represents a reasonably accurate picture of the classroom.

Another important point to bear in mind is that no judgments are made in recording the data. No evaluation of the teacher is being made through the systematic observation process. The subjectivity of the observer and his judgments are significantly reduced. The evaluation comes after observation when the data is tallied from the matrix.

Note also that because of this more objective record of what has occured, vague evaluation comments can be eliminated. This observation allows one to say with certainty "five percent of the verbal interaction was student talk" rather than "there wasn't enough student participation in the discussion." The question that immediately comes to mind is how much is enough and how much did occur. With systematic analysis a teacher can obtain more specific answers to these questions which allows for more meaningful feedback.

When an observation of this type is utilized, a goal centered evaluation is possible. A teacher can establish for himself the approximate amount of time that should be spent in a particular category in implementing his lesson. He may feel that the students should be involved a certain percentage of the time in classroom discussion, or that encouragement should be at least present one percent of the time. After the description of the lesson is determined from the observation, the teacher or teacher and supervisor could then more realistically evaluate what happened in terms of the goals.

In addition, observations of the systematic type will concentrate on the essential elements of instruction as defined before teaching rather than on the trivial or less important. Statements as "the windows were open allowing too much noise from the outside" would be interjected merely as a side comment rather than being an essential element of the observation and evaluation. The feedback is much more purposeful.

Another observation system of interest is Improving Questioning Strategies by Minnis and Shrable.[11] This system focuses on the type of question asked by the teacher and the kind of response received. Behavior levels are described which correspond to question types of levels. Behaviors types for each level are also defined in terms of the teacher's follow-up question or behavior.

This second system is not as comprehensive as the Flanders model, but it offers information of a specific nature and actually expands on certain Flanders categories such as teacher questions. The data provided in this second model is not in terms of frequency only but in terms of quality or types of questions. The original Flanders model has been modified by Amidon and Hunter[12] by expanding certain categories into various types such as kinds of questions. This is a recognition of a need for more qualitative information and relegates non-systematic observation to even further obscurity.

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[11] Douglas L. Minnis and Kenneth Shrable, Improving Questioning Strategies (Davis, California: University of California, Search Models Unlimited, 1970).

Galloway[13] has developed a system with categories all related to nonverbal language in the classroom. Facial expressions, gestures, body movements and vocal changes are used as evidence in his system. Under "encouraging communication" he describes four categories: enthusiastic support, helping, receptability, and pro forma. Under "inhibiting communication" he defines three categories: Inattentive, unresponsive, and disapproval.

Galloway's method is similar to Flanders'. The observer records the number of the category corresponding to the recognized nonverbal behaviors. No time restriction for recording is used, however, as the observer records by the action only.

Galloway also describes a combined verbal and nonverbal system. Using the original ten categories of the Flanders system, he explains how each verbal behavior can also be displayed by a nonverbal expression. Also, a particular verbal statement can be interpreted in different ways depending on the tone, gestures, and other non-verbal cues.

For each verbal behavior he provides nonverbal behaviors in two dimensions, either encouraging or restricting. As an example, while a teacher is verbalizing criticism, the nonverbal cues associated with the statement may indicate either a firm or a harsh intent, with the two having a very different effect on the student. Giving directives may either be involving or dismissing, as Galloway points out. The combination of the two systems unites two different dimensions of classroom interactions and provides a more accurate description of the intent behind the behavior.

The EPIC[14] group has developed a "Teacher Self-Appraisal Observation System." This system provides for a combination of several aspects of the instructional process and is geared toward improvement through self-analysis. The focus is on the teacher being able to help himself with emphasis placed on objectives, methods, and expressions.

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[12] Edmund Amidon and Elizabeth Hunter, Improving Teaching: The Analysis of Classroom Verbal Instruction (New York: Holt, Rinehart and Winston, 1966).

[13] Charles M. Galloway, Teaching is Communicating: Nonverbal Language In The Classroom, Bulletin No. 29 (Washington, D.C.: Association for Student Teaching, 1970).

[14] EPIC Diversified Systems, Developing Observation Systems, (Tucson: Educational Innovators Press, 1970).

The teacher has a choice of a wide variety of systematic analysis observation systems. The system should be selected which most relates to the needs of the teacher. Those that relate to a specific subject area may be preferred, or a system utilizing only verbal interaction or one related to classroom questions might be desired.

An important consideration in the selection of the instrument is how well it relates to the objectives for instruction. Will the system indicate if the instructional techniques were implemented as planned? In order to determine this, the system must be geared to the planned strategy, that is, have categories which isolate the desired planned behaviors. Similarly, the systematic analysis instrument should not dictate the instructional strategies.

Instruction is planned as a means of enhancing student attainment of the specifically stated objectives. The analysis of instruction is means of determining if the teacher has implemented the planned techniques consistent with the objectives. The entire process must be sequentially related.

Other methods of evaluating demonstration or achievement of competencies include student feedback, ordinary classroom observation (non - systematic), self-appraisal instruments, peer evaluation, micro-teaching, team evaluation, and student achievement data.

The use of video or audio tapes has increased significantly, and can be utilized as part of several of the above methods. Video and audio tapes are frequently, although not always, used in systematic analysis procedures. Self-analysis can be conducted with the aid of videotaping which enables an individual to examine his own teaching. Specific criteria can be applied to evaluate particular instructional strategies, or the teacher may employ a systematic analysis technique to his own instruction as he views the video tape. This is an outstanding form of feedback, particularly when specific objectives are the focus.

In peer evaluation, observation by a colleague provides a low threat situation. Teachers working in pairs to assist each other in needs analysis can be used to evaluate each other's mastery of the competencies trained for. The teacher pairs work closely together for a considerable period of time and become very familiar with each other's teaching styles, and an evaluation can be based on a much larger sample of teaching behavior. In the case of competencies requiring classroom demonstration this larger sample is a very positive factor.

Another method is to have trained personnel who are responsible for the evaluation of particular competencies. This individual might be selected on the basis of his being able to demonstrate a mastery of the competency himself, in addition to being able to recognize and evaluate this skill in others. This would increase the teacher's confidence in the individual doing the evaluation. This individual may be a teacher, administrator, or supervisor.

In some cases administrators or supervisors increase the threat factor but this can be significantly reduced if the individual has good human relations skills, and can demonstrate his ability to perform the competency at the required mastery level.

If an individual is designated to evaluate competency achievement and this is his sole responsibility, he eventually becomes very skilled in observing the particular competencies. One might argue that also he sees a large number of teachers and begins to establish a base for comparison. In those instances where specific mastery criteria have been established, a base for comparison should not enter into the assessment of competency achievement. In those instances where evaluation is more open ended, this experiental base would be of value in knowing what to look for during the observation. A serious problem with this approach is funding such a position.

Earlier the team approach was identified as a method of developing needs assessment. Again, this team can be utilized in the evaluation process just as the pairs were used in both situations. As in the needs assessment, each team member could be observed by several other team members on a rotating basis. Not only does this provide a variety of perceptions, but a broad sample of behavior is accumulated in a shorter period of time. It is important that this team have a good working relationship and have confidence in each other's judgments. Since many individuals observe a given teacher, it is likely that the collective evaluation will be a true reflection of the teacher's ability.

Student feedback can be used to evaluate whether or not a teacher has mastered a given competency. These students are in contact with the teacher on a daily basis and are probably more familiar with his style, including strengths and weaknesses, than anyone else. They would provide observations based on an extremely large sample of the teacher's behavior, thus their evaluation would very likely be a valid one.

It is not advised to ask students what they felt the teacher could or could not do, as part of the evaluation process. This would be inconsistent with the model at this point. The students should be asked to evaluate specific competency statements provided them. In this way their comments would be more structured and also more meaningful. Also, although there may be some emotional student responses based on liking or disliking the teacher personally, the cummulative response would be realistic and, hence, of probable value. This could also be combined with other types of evaluation.

For those competencies where student outcomes are the criteria established for the achievement of the competency, other kinds of student data are needed. In this instance achievement test data are the usual form of information needed. If the students demonstrate adequate gains (according to the criteria established) then the competency has been attained. Examples of such competencies were provided earlier.

Whether or not it is advisable to use student outcomes as indicators of successful demonstration of specific competencies is suspect, as discussed in a previous chapter. If students show gains after instruction this is a strong indication of effective teaching, but whether or not this was due to specific competencies is uncertain. If students do not show such gains, however, one does not know how many or which other factors prevented the students from achieving the necessary scores. In both instances of success and failure a variety of factors could enter into the process. Use of student achievement data to evaluate teacher competencies should be approached very carefully.

Evaluation of competencies in classroom situations must take into account a variety of factors such as classroom conditions, availability of materials, nature of the students, etc. These elements must be considered when using either large or small groups. When using small groups, however, many of the factors are controlled, and it is easier to utilize and evaluate specific skills.

If a competency requires classroom demonstration, the teacher may prepare a lesson specifically including the competency. Something may occur in the classroom, however, which precludes or calls for another instructional strategy which does not include the particular competency. By using a smaller number of students the situation is more controlled, the specific competency may be demonstrated, and evaluation may be focused on the competency.

One approach to this scaled-down lesson is to teach to a group of peers. A mini-lesson, an abbreviated teaching encounter, could be used to provide only the time needed to demonstrate an instructional competency within the context of a lesson. The peers could be the evaluating team referred to previously, or the evaluator (peer, specialist, etc.) could observe the instruction demonstration.

A more realistic approach, of course, is to teach a small group of students. Some preservice teacher education programs provide this as an opportunity to practice specific skills, while others have used student achievement in these short (10 to 15 minute) sessions as an indication of instructional competence in that particular skill area. Observation of the teacher is again a possibility, as is student feedback relative to specific competencies.

Video tapes have been used extensively in such short term instructional sequences, as described in the delivery system chapter. This provides for self-analysis, as well as a more detailed evaluation by others and at more convenient times. Growth from trial to trial can also be ascertained. It could be that the final mini-lesson in the instructional process is the evaluation of competency achievement. Indeed, the teacher should not leave the training sequence until he has mastered the competency which is, in fact, evaluation of competency achievement.

Note that in the above short term sessions one is evaluating whether the teacher can demonstrate the skill, not if he indeed does this in his classroom at the appropriate time. The long term sampling procedure is needed for this type of assessment. Some have argued, however, that the purpose of training is to enable a teacher to attain a competency so that he may be able to utilize it at the appropriate time. Evaluation of training effects, it is argued, should stop at this point. Evaluation for tenure , etc., would need the more extensive evaluation since it is concerned with what he does, not what he could do.

A significant question that underlies and runs throughout the entire evaluation of inservice training, is what evidence will be accepted that the competency has been demonstrated or achieved. In many cases, specific criteria can be stated in advance, such as in the knowledge area. But in some cases, particularly where broad competencies have been stated, this may not be such an easy or desirable procedure, although this should be attempted to determine feasibility and desirability.

What it is believed that a variety of teacher behaviors could indicate competency achievement, or where timing is a critical factor, something needs to be done to insure a realistic and reasonably objective evaluation of the competency. The evaluator should state the evidence he has observed which leads him to his conclusion. This is necessary just on the basis of fairness to the teacher.

One way of approaching those competencies where no specific mastery criteria have been established, is to have the teacher and his evaluator(s) set the criteria in advance of instruction according to the teacher's personal style and his particular classroom context. This will provide a personalized element yet interjects a certain degree of objectivity and consistency into the evaluation of the particular competency.

As data on certain competencies begins to accumulate, it becomes possible and perhaps necessary to adjust the mastery levels and credit assigned to a particular module and/or competency. When the original competency was written, criterion mastery levels were assigned arbitrarily, based on the experienced judgment of those writing the competencies. Continual evaluation of the competencies serves as a field test and a data base is developed upon which realistic field tested decisions can be made about mastery levels.

This process becomes particularly important for those competencies where it has been deemed not possible to develop specific criteria. If the evaluators cite the evidence that they accept in evaluations of these competencies, a set of possible criteria begins to emerge. These statements can be used as examples of possible ways in which a teacher may demonstrate mastery. Eventually, it may be expected that most teachers would demonstrate some of these in meeting the objective. If a consistent set of criteria emerges after numerous evaluations, then these may be accepted as the mastery criteria for a particular objective.

Another purpose of accumulating such data is that it provides a means of evaluating the training process. If teachers are consistently failing to achieve a competency after going through the training procedures, then clearly the training needs to be re-examined. Enough data needs to be accumulated before this decision can be made.

When an individual fails to master a competency, the evaluation should provide him with sufficient information of a detailed nature so he may recognize and deal with his weaknesses in a retraining process. Recycling an individual for more training should be efficient, and by identifying specific aspects that he lacks, retraining needs only to be in these specific areas and not the entire training program again.

Once a competency has been achieved and demonstrated, it is not necessarily always retained. If competencies have been demonstrated initially in a scaled-down situation, there should be some type of follow-up evaluation to ensure carry over to the classroom. In addition, after a period of time, there should be an evaluation or needs assessment to ascertain retention of the competency. Retraining on any specific aspects which have been neglected should then be available. Ideally, each individual continues to build and reinforce his teaching competencies. The process of follow-up and follow-through assist in the maintenance and expansion of these skills.

One of the problems cited in previous chapters was the lack of experimental validation of teaching competencies or training materials. Much of what is being done in these areas is based on what we believe might work or might be related to student outcomes. We must rely on intuition or experience to make these decisions.

In view of this problem, and since a school district may wish to determine the effectiveness of its training and ascertain which teaching skills are effective, a research component may be introduced into the system. The purpose would be to validate through experimental studies any portion of the program which is possible. A first priority, however, would be to determine which teaching skills were effective and under what conditions.

The inservice training program described here offers an almost ideal situation for research activities. The objectives of training are clearly stated with specific evaluative criteria which apply to all individuals training for the objective. The use of pre and post tests provides a measure of the change produced during the training period. Assuming other variables are controlled, the changes produced by different training materials and methods are thus assessed. Unfortunately, random assignment of teachers to various training methods would be inconsistent with this individualized model. However, with the large amounts of data collected on each training mode much could be learned.

Research can also be done on the validation of competencies through this model. In the evaluation process teachers demonstrate the specific competency being evaluated, both in the actual classroom and in scaled-down situations. When student data is collected in reference to these competencies, the relationship between the competencies and student changes can be determined. This is particularly true for objectives which require student achievement as the criterion of competency mastery.

Note also that the situation requires demonstration of the specific competency which the teacher has been trained to demonstrate. The evaluator assesses whether or not the competency has actually been demonstrated, and specific data is gathered on both the teacher's and students' performance. If possible, pre-test data on students should also be collected.

Micro-teaching has been used to study the relationship between a specific competency and student gains. The advantage of this situation is that it is much more controlled than a full classroom, hence, fewer variables enter the situation. A disadvantage, however, is that only short term objectives can be measured.

Another possibility in terms of research is to investigate long term effects of training on teachers. The periodic needs assessment and other evaluation processes provide data on retention of competencies. These longitudinal studies provide a valuable added dimension to the knowledge base on teacher competencies.

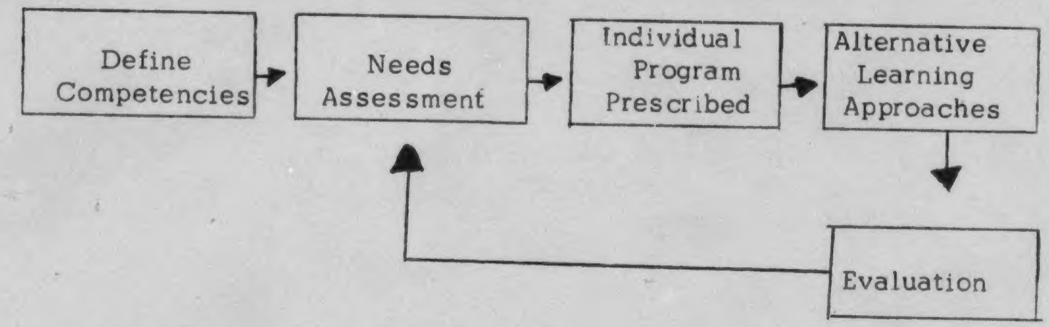
GETTING STARTED

The most important factor needed to initiate an inservice program as described is to get the administration and faculty interested. The administratior or those responsible for conducting the inservice program need to support the approach in order to seek the necessary resources, facilities, and staff time needed to get the program started and keep it functioning. The teachers need to become interested because without their support the program will really not be successful.

Perhaps the best means of generating support is to describe the program, focusing on such things as its central theme of identifying the needs of participants and meeting these needs. The systematic nature of the program and its individualized aspects would also be important characteristics to point out.

By looking at a general overview of this inservice program it is apparent that there are several steps in the processes shown below:

FIGURE 4


Define Competencies
Needs Assessment
Individual Program Prescribed
Alternative Learning Approaches
Evaluation

A gradual implementation of this approach, on a step-by-step basis, may be the most feasible. The first step, developing the competencies, is of extreme importance and should involve teachers in defining teachers' competencies and administrators in defining administrators' competencies. Involvement and acceptance at this initial stage will significantly increase acceptance and success at later stages.

Once a commitment has been obtained to proceed with the program, it may be necessary to engage the services of a consultant to assist in the overall program development. An alternative is to seek consultant help at each stage of the program, each time requesting an individual with expertise in that particular area.

The competency development state requires much decision making in terms of which competency mode, areas, and type will be utilized in the program. Likewise, the needs assessment procedure requires decisions about the process, i.e. will teams, groups, or a specialist be used. Perhaps a complete proposal should be developed, selecting desired elements from alternatives described here, and presented to administration and staff. Whatever the method, choices will have to be made before implementing the program.

Establishing the training system will require a great deal of effort and resources to make it functional. The resource center described in a previous section is an important part of this system. It would be necessary to obtain basic information on competencies, modules, assessment, etc., from competency-based preservice programs in operation. Visits to these programs and examination of their materials is an excellent means of obtaining first-hand information and getting started on your own program.

A program as comprehensive in scope as a total inservice training system such as described here, will probably be approached in a gradual fashion. Given this situation, it is necessary to establish a set of priorities. The basic or essential competencies should be used to formulate the first set of training materials. Once the entire sequence has been established for these, the program could be gradually expanded to include as many other competencies as have been identified.

In summary, some of the possible steps in developing a program are to generate interest and support, make decisions about various aspects of the program in order to establish guidelines, proceed on a step-by-step basis, and establish priorities. Once the program is operational however, it is important to keep it open to change and be a regenerative program.

CHAPTER VI

EVALUATION OF CBTE

EVIDENCE ON THE EFFECTIVENESS OF COMPETENCY BASED TEACHER EDUCATION PROGRAMS

TABLE OF CONTENTS

Page

PROBLEM AND APPROACH 365

EVALUATION DATA CATEGORIES 367

EVALUATION RESULTS 369

- Pupil Growth 369
- Competency Attainment 372
  - •Specific Modules 377
  - •Microteaching 379
- Reactions and Feedback 380
- Summary 397

DISCUSSION 398

- Information Reported 397
- Program Effectiveness 399
- Competency Validation 400
- Information Categories 400
- CBTE Definition 402

CONCLUSIONS 403

CHARTS-SUMMARY OF EVIDENCE 406

INDEX TO INSTITUTIONS 410

REFERENCES 413

EVIDENCE ON THE EFFECTIVENESS OF CBTE PROGRAMS

PROBLEM AND APPROACH

The concept of competency-based teacher education (CBTE) has received considerable attention in the past several years. At least thirty-five states have become involved in studying ways of implementing or are actually developing such programs (Roth, 1974a). In addition, close to 500 teacher education institutions are operating or developing CBTE programs to some degree (Sherwin, 1973).

A great deal has been written on the positive and negative aspects of the CBTE approach. Almost every major education journal has carried the comments of both proponents and critics of these programs. Unfortunately, most of this rhetoric is based on the authors' assumptions about what CBTE will or will not do. Seldom is any evidence provided to support the assertions made.

In view of the phenomenal growth and incessant dialogue concerning competency-based teacher education, it would appear to be appropriate to ask for evidence, either pro or con, concerning the "effectiveness" of these programs. The term "effectiveness" can be interpreted in a variety of ways and will be considered further in a later paragraph.

The purpose of this study was to gather evaluation information on competency-based teacher education. In order to obtain such data it was necessary to first identify those institutions which were considered to have operational CBTE programs. A variety of sources, such as an AACTE list, were used to compile a master list of 215 programs (some institutions have more than one program). A letter requesting information on evaluation of these programs was sent to each of the program directors or Deans in April, 1975. The letter did not contain a definition of CBTE. Since there is no complete agreement on this definition each institution was given the freedom to respond accordingly. The request letter asked for any type of program evaluation data that could be provided, and gave the following examples:

- The effectiveness of trainees and/or graduates in promoting pupil learning;
- Verification that trainees and/or graduates attain the knowledge, skills, attitudes (competencies) stated as objectives of the program;
- Competency validation;

- Reactions to the program through questionnaires etc., given to students during the program, recent graduates with teaching experience, faculty, and employers;

- Any other program evaluation data.

Seventy-three responses were received, but several of these had referred the response to other staff members for response and six of these had not responded within five months of the request, thus the actual response was sixty-seven. Of the sixty-seven responses, seven indicated they did not have a CBTE program (two of these were "competency based" but not in teacher education). Of the remaining sixty, thirty-two indicated that they had no evaluation data to report (most common reason was that the program was too new). Data were provided on twenty-eight programs from the survey, but some programs had more than one study to report.

Serving as a second source of information on evaluation of CBTE programs was a survey of thirty teacher education institutions in the state of Michigan to determine their involvement in CBTE. This information was available from a previous study. There was a large number of programs at seventeen institutions, but data were received from six programs.

A third source of information was a comprehensive ERIC search of documents related to competency-based teacher education and evaluation of teacher education programs. This covered the period from January 1970 to July 1975, and used combinations of descriptors such as: Performance-Based Teacher Education, Program Evaluation, Evaluation Methods, Evaluation Techniques, and Evaluation Criteria. Both the Current Index to Journals in Education and Research in Education were searched. Evaluation data from several other programs were discovered from this source. Also, relevant papers presented at American Educational Research Association conferences or published elsewhere were used.

The total number of institutions on which information was obtained from all sources was fifty-six, the total number of programs was sixty-five, and the total number of reports was sixty-six.* Throughout this paper the term "pupil" refers to learners in the elementary and secondary grades, whereas the term "student" refers to trainees in teacher education programs.

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*Surveys covered a number of institutions but each survey was counted only once under the "program" and "report" categories.

EVALUATION DATA CATEGORIES

In considering the effectiveness of any type of teacher education program it is necessary to first examine the ways of evaluating programs and the types of information which can be collected. There are three categories of information which were used in this study to classify information on the effectiveness of CBTE programs.

1. Pupil growth data: this includes data on the ability of trainees or graduates to promote pupil learning. Data or research which verifies this relationship in terms of designated competencies is, in effect, competency validation.

   Three subcategories are:

   a) long term effects - growth as a result of teacher-pupil contact of one semester or more.

   b) short term effects - growth as a result of a short term contact, e.g. microteaching with pupil testing, or student teachin

   c) pupil behaviors - reflects an ability of the trainee to engage pupils in meaningful activities which presumably lead to growth. This is considered a secondary criterion.

2. Competency attainment: this refers to the capability of the program to provide trainees with the competencies identified as objectives of the program. Any data which verify that trainees or graduates have attained the knowledge, skill, or attitude objectives (competencies) of the program would be included here, if they are the result of an actual competency assessment of trainees or graduates. Three means of collecting these data can be used as subcategories.

   a) Assessment of trainee competence during or upon exit from the program. The evaluation of training experiences and materials is included here, since the effectiveness of these materials should be judged on the basis of trainee achievement of the competency objective of the material or experience. Trainee performance data on modules, microteaching, and student teaching are thus included in this subcategory.

   b) Follow-up studies of graduates conducted by teacher training institutions to determine retainment and use of competencies. This would only include actual assessment of competencies such as through observation techniques.

   c) Performance evaluation data provided by employers who evaluate competencies of their teachers in the classroom.

3. Reactions and feedback on programs: This includes subjective statements through questionnaires etc., on the extent to which the competencies were perceived to have been attained, how effective training was perceived to be, and to what extent the training experience was interesting. Also included here might be consensus-reaching activities in developing competencies and feedback on their relevance and utility in the classroom. This may also be considered as competency "validation" but not in the more meaningful sense as found in pupil growth validation.

   Reactions could be obtained from at least five sources:

   a) Faculty involved in the program

   b) Trainees in the program (includes course or module evaluation, etc.)

   c) Recent graduates with teaching experience

   d) Employers or cooperating teachers

   e) Outside observers or evaluators.

A fourth category of information could be used to evaluate programs but was not considered in this analysis. This involves determining the degree to which a program has been implemented according to its design. Although this may be of value internally to the institution it is not pertinent to the purposes of this study and no data were collected in this regard.

The program evaluation information received was classified into the three categories described above and will be presented in that order.

EVALUATION RESULTS

Pupil Growth

A number of competency-based teacher education programs have described in the literature their activities in this area as part of the program design, e.g. Oregon College of Education, U.C.L.A. (teaching performance tests). The use of teaching tests and consequence (pupil growth) objectives have been described by several institutions, and it is thus suspected that more information is available than is summarized here. Much of this probably was not reported to this study either because the institution elected not to respond to the survey or the request never reached the appropriate personnel.

One study related to long term pupil growth was reported in the survey.

Teacher Corps: Marsh and Lyons (1975) studied the effectiveness of Sixth-Cycle Teacher Corps graduates compared to control group teachers. The relationship to CBTE is at best tentative, but is based on the indication that many of the courses of the higher education institutions in Teacher Corps were organized around the development of specific teacher competencies and allowed for the intern to learn at his/her own pace. Included in the study were all Teacher Corps graduates (1973-74 first year teachers, N = 84) who taught pupils in grades 2-6 in self-contained classrooms. Data about pupils were obtained using a standardized reading test, a standardized self-concept scale, and a classroom observation guide. There were no significant differences between Teacher Corps and control group classes on any reading measure, despite a greater emphasis on reading on the part of control group teachers in grades 2-3. Teacher Corps graduates, however, were able to bring about changes in a child's self-concept that were significantly greater than changes brought about by control group teachers. These changes consisted of observed expressions of greater happiness and greater self-worth in the classroom and better scores on important subscales of the self-concept scale (self-concept about appearance and attributes, and feelings of happiness and satisfaction). It should be noted, however, that there were no differences between Teacher Corps and control group graduates on teacher performance variables.

It was also found that the specification of teaching competencies (simulation/feedback) within a program framework was negatively related to teacher performance and pupil learning. A conclusion offered was that "it would be unfair to generalize too much from this finding, since competency-based education includes far more than simply the specification of competencies" (Marsh interview, 1975, p. 4).

Several other studies were cited which provide evidence under the subcategory of short term growth.

The University of Nebraska-Lincoln: Studies were conducted in relation to the Nebraska University Secondary Teacher Education Program (NUSTEP). One study compared English education majors, fifteen of which were NUSTEP trainees and fifteen who were trainees in the conventional program. Both samples taught a small group of secondary school pupils an English grammatical concept lesson, and pupil achievement gain was measured through pre and post testing. Pupils instructed by NUSTEP trained teachers scored significantly higher on the post-test measures than the pupils instructed by the conventionally trained teachers. The researcher (Francke, 1971) concluded that a positive relationship existed between the NUSTEP stubject's ability to produce pupil achievement and his use of the teacher behaviors related to the NUSTEP model of instruction.

Upsala College in New Jersey: This institution reported that information derived from their module cluster dealing with diagnostic and prescriptive teaching in both the affective and cognitive areas indicates that the trainees are directly promoting pupil learning. Interns report success with pupils on the basis of pre and post diagnosis or post-testing, and this success is substantiated by cooperating teachers. The number of times this occurs is not discernable since records are not kept on this frequency (Hahn, 1975).

Illinois State University: ISU studied the effects of a competency-based training program involving a microplanning technique which consists of dividing tutorial teacher behavior into component parts. An experimental group of ten secondary school social studies majors and a control group of ten similar majors in the regular program taught four one-half hour lessons to five to ten high school pupils. The pupils were tested on two levels, recall and ability to reason based on the material covered, and the mean pupil score for each subject for each level constituted the criterion measure of teacher effectiveness. In all but two cases the experimental subject of each pair outperformed the control subject in terms of mean pupil achievement (Waimon, Bell, Ramseyer, 1972).

Another study was conducted later at Illinois State University by Waimon and Ramseyer (1974). During the 1973-74 year, all Professional Sequence students completing pre-student teaching requirements were required to take a teaching performance test administered at U-High Laboratory School. The teaching performance test was developed and field-tested at UCLA and results from testing at UCLA were compared with I.S.U. results. Pupil outcomes in the form of residual gain scores on a post-test of material covered in the teaching performance test were used as the criterion. Test data were generally comparable with that found at UCLA.

Indiana University: The effects of a minicourse consisting of twenty-seven teacher behaviors were studied at Indiana University by comparing a treatment group (trained with the minicourse) consisting of seven inservice teachers with a control group of seven teachers. Second and third grade pupils (N = 115) of the experimental teachers were compared with a comparable group of pupils (N = 115) of the control group teachers. The covariance-adjusted post-test mean grade equivalent scores on the "Work Study Skills" and "Paragraph Meaning" subtests of the Stanford Achievement Test, and the covariance-adjusted post-test mean scores on the reading decoding tasks of the Minicourse Achievement Test were used to compare the pupils of the two groups (test-retest interval of fourteen weeks). A statistically significant ($p < .05$) difference indicated the superior performance of pupils in the classes of teachers trained with the minicourse ($p < .01$) for the "Word Study Skills" subtest but not reaching statistical significance at the .05 level for the "Paragraph Meaning" subtest. Also, pupils taught by minicourse teachers made significantly greater gains in reading decoding ability. Superior performance of minicourse teachers' pupils may have been partially attributed to greater familiarity with tasks required by the test items (Strickler, 1974).

Temple University: A pilot study was conducted at Temple University to begin evaluation of CBTE approaches. Beginning intern teachers were trained using a module on Establishing Pre-Instructional Set (EPIS). Pupils of these interns were given a content test on the lessons taught during a four week period. Product moment correlations between EPIS behaviors and adjusted pupil achievement data produced a significant positive correlation for the EPIS group of interns in the instance of the time fraction devoted to EPIS activities. While the overall reliability of the content test was acceptable (.83), two of the five subject area subtest values dropped below 0.5, suggesting a need for caution regarding the relationship with achievement (Bruce, 1975).

University of Utah: A Life Involvement Model (LIM) performance-based teacher education program was developed and tested at the University of Utah (Benjamins, et.al., 1974). The project provided trainees with all the competencies required to carry out a life-involvement educational program. The LIM project also consisted of a curriculum for elementary students providing for direct practice of "the behaviors of a responsible life." Four preservice LIM interns were at the LIM experimental schools for two quarters fulltime.

All sixty-two fifth and sixth grade LIM pupils participated in the evaluation procedures, as well as one hundred and thirty-eight "non-LIM" controls. Although the LIM curriculum did not emphasize the traditional academic areas of reading, writing, and arithmetic, LIM students in general did as well as traditional classes in overall achievement (Iowa Tests of Basic Skills). A Venture Process Test (VPT) on inquiry activity processes (LIM oriented) showed LIM students gained comprehension in these processes. The overall results on the creativity scales (Student Activities Questionnaire, Minnesota School Affect Assessment) indicated that although the LIM fifth grade trend failed to achieve statistical significance, LIM students had acquired more of the creativity characteristics than the traditional class. Classroom environment indicators were positive on four factors, but were divergent on two others. Finally, as a result of LIM procedures and teacher efforts, positive student feelings and constructive attitudes were elicited from the LIM students. It should be noted that all of the findings of this project can be attributed to an interaction of both the performance-based teacher training and the LIM elementary school curriculum.

University of Hartford: In an effort to validate a competency, research was conducted at the University of Hartford. Twelve university interns were selected at random and randomly assigned to two groups, one of which received training in utilizing equivalent practice in teaching and the other group which did not. Elementary school pupils in grades five and six were randomly selected and assigned to interns (five pupils to each intern). Pupils were instructed in a microteaching session (maximum 20 minutes), and the instructional outcome consisted of the pupils' being able to write English phrases which had been sounded in International Morse Code. The experimental and control groups were compared with respect to use of the specific teaching skill trained for, and the mean number of words and mean number of letters translated by pupils. Classroom means were used as the unit of statistical analysis. Pupils taught by intern teachers trained to provide equivalent practice achieved only slightly better than pupils whose teachers had not been trained in the skill, and the differences were not statistically significant. Significant correlations were found between the proportion of time each teacher spent providing equivalent practice, proportion of time pupils engaged in equivalent practice, and both the number of words and the number of letters which the teacher's pupils were able to correctly translate from the Morse Code. Sixty-two percent of the variance in words learned and fifty-five percent of the variance in letters learned were associated with the variance in the specific teaching skill. Pupils of the treatment group spent a significantly greater portion of their time engaged in equivalent practice (Lappert, 1975).

Competency Attainment

Teacher Corps: The Sixth-Cycle Teacher Corps study by Marsh and Lyons (1974) cited previously in the pupil growth studies also reported data on competency attainment. Teacher Corps graduates were superior to control group teachers on many of the teacher performance variables desired by Teacher Corps, such as: developing ethnically relevant curricula, using community resources in teaching and initiating contact with parents, and positive attitudes about reading development and causes of poverty. There were no differences, however, between Teacher Corps graduates and controls on any teacher performance variable based on classroom observation of the teacher. The relationship to CBTE is very tenuous, the only link being that many of the college courses were organized around the development of specific teacher competencies.

SUNY-Cortland: Project Change, an early childhood and developmental education graduate program, is a performance-based person centered project at the Master's level at the State University of New York at Cortland. A formal research evaluation was carried out in 1972-73 comparing Project graduates, trainees, and a control group of exemplary teachers. One objective of the Project was development of an informal teaching style as measured by an Observation Rating Scale (Walberg and Thomas, 1972) and a corresponding Teacher Self-Report Questionnaire. Project teachers, both graduates and trainees, had developed an informal teaching style, while the control teachers who were considered excellent by their principals did not. A Total Teacher Profile was used to measure the extent of a teacher's participation in professional activities beyond the classroom, especially those involving leadership for change. Project teachers were more involved in all the activities surveyed (Scheers and Lickona, 1975).

SUNY-Fredonia: A teacher center designed around competency-based concepts was developed in the Hamburg, New York, Central School district by the State University of New York-Fredonia to provide both preservice training (interns) and inservice education. The Fuller Teacher Concerns Questionnaire was administered to the interns to determine their professional attitudes. Their concerns changed from the self-oriented end of the continuum toward concern for pupils. Thus, their experience in the Center made them similar to experienced teachers.

In addition, forty-six interns were observed and rated by trained observers using an observation instrument on six trait items: Acceptance of pupils and ideas, teacher warmth, pupil involvement, provision for individual differences, clarity, and organization of instruction. Overall, students were rated good on these traits. The total means were 7.1, 7.0, 6.6, 6.4, 6.5, and 6.4 respectively, on a nine point scale with 1 very poor, 3 poor, 5 average, 7 good, and 9 very good. Distinctions between the fifteen Teacher Center interns and other interns were not reported (Bicknell, 1974).

Milligan College: This Tennessee college made a study of the National Teacher Examination scores to see if Milligan PBTE educated students tend to score better than those educated by conventional methods. Since the first modules were used in the summer of 1971, the project directors decided to study student scores of those who were Milligan educated and tested between 1969 and 1971 (two year period), and compare these with the experimental group who took some part of the PBTE program between 1971 and 1973 (also a two year period). The mean score for the conventionally educated student proved to be lower than the mean score of the PBTE educated student. The difference was statistically significant at the .05 level (Clark, 1973).

University of Kansas: The Habilitation Personnel Training Project has developed a competency-based training program, in modular form, for educators of handicapped youth and young adults at the secondary level. A comprehensive evaluation effort was conducted to obtain internal appraisals, expert appraisals, field test data, and interviews (Weisenstein, 1974; Wimmer, 1975).

Pre and post tests from field testing of instructional modules have shown decreases in error rates attributable to the instructional modules. These represent decreases to levels of one third to one eighth of the former rate.

A pilot study was conducted to ascertain the differential effects of the competency-based training versus lecture methods. A group of eight experimental subjects and seven controls were randomly assigned to treatments in an introductory class on methods for teaching the mentally retarded. Controls participated in lectures on writing behavioral objectives, while the experimental subjects were assigned a trial module on the same topic. Pre- and post-test data showed no differences in error reduction scores between the groups at the .10 level. It was found, however, that the information presented in the HPTP modules was covered in less to equal the time it took to cover the same information using the lecture method of instruction (Weisenstein, 1974).

University of Nebraska-Omaha: The Secondary Education Individualized Instruction Project (SEIIP) is an individualized, system-oriented, competency-based, preservice program at the University of Nebraska, Omaha. A study was conducted during the spring semester in which student achievement and attitudes under the individualized and traditional methods of instruction were compared. No significant difference was found between the two groups in final achievement or in the amount of gain in achievement between the beginning and end of course. Both groups made significant gains in achievement during the semester (Ziebarth and Jones, 1971).

University of Nebraska-Lincoln: The University of Nebraska project at Lincoln (NUSTEP) was described previously. In a study by Larson (1970) observational ratings using an interaction scale analysis found NUSTEP students behaviorally became more team oriented, more cognizant of student participation and placed less emphasis on their own in-class direction. In a study by Hughbanks (1971) thirty student teachers were randomly selected from the pool completing the NUSTEP program prior to entering student teaching. Cooperating teachers and student teaching supervisors rated selected behaviors of the students. The students as a group did practice, in their student teaching experience, eight of the nine behaviors which they had been taught in NUSTEP. A study by Francke (1971) compared fifteen NUSTEP and fifteen conventionally trained students. Both groups taught a grammatical concept to a small group of secondary school pupils and were videotaped. The results indicated that the NUSTEP trained subjects more closely approximated the NUSTEP model than did the conventionally trained students. Student teachers from NUSTEP also displayed greater ability to select and use a variety of teaching skills and strategies. An attitude development questionnaire distributed in a study by Kelly and Walter (1971) indicated the NUSTEP program tended to achieve the affective objective of creating a more confident teacher.

Texas A & M University: Texas A & M implemented a competency-based secondary level teacher education program, and assessed teaching behaviors through observation of microteaching exercises and group activities, as well as evaluating the teaching skills and techniques performed during student teaching and training modules. Data were available on the frequency of objectives achieved, remediated, and not achieved on twenty-one modules. Typical results show close to four hundred objectives achieved, thirty recycled, and fifty not achieved (Denton, et.al , 1975).

University of Hartford: This study, described previously, randomly assigned twelve interns to an experimental and control group. The experimental group received training in utilizing equivalent practice in teaching and the other did not. The experimental group spent a significantly greater proportion (p.<.05) of their teaching time utilizing this technique than did those who were not trained. (Lappert, 1975).

Temple University: Program VITAL is an experimental program in competency-based vocational teacher education at Temple University. The program contains eighty-nine vocational teaching competencies developed through the use of thirty learning modules. Data were collected from 114 intern vocational teachers, twenty-one supervisors, and various levels of staff. The Supervisors Rating Form used asked the supervisors to indicate the degree to which a particular intern was competent at eighty-nine different competencies. Six alternative responses were provided with five ranging from "totally incompetent" to "at the skill level of a competent teacher," and the sixth for no opportunity to observe. A mean and median score for each of the eighty-nine competencies were derived from the supervisors' ratings. A mean and median score was then derived for all interns completing each of the modules (completers) and all those not completing them (non-completers).

Median scores were then compared using the Mann-Whitney U-test. Completers received higher mean scores (greater competency) on seventy-three out of the eighty-nine competencies included in the program. Non-completers received higher mean scores on only seven competencies and mean scores were the same for both groups on nine competencies. Supervisors did not know which modules a particular intern had completed. A median rating below 2.0 on a competency (1.0 is highest of the five) was found in only three of the eighty-nine competencies for the completers and on twenty-three of eighty-nine competencies for the non-completers. Statistically significant differences (p = .05) were found between the median ratings received by the completers and those of the non-completers in fifty-four cases. In fifty-two of these the differences favored the completers (Adamsky, 1974).

Brigham Young: Since 1966 an Individualized Secondary Teacher Education Program has been functioning at Brigham Young University. All incoming students undergo a battery of examinations on personality, self-concept, and values. The group results are compared to other groups of student teachers as well as scores obtained on the same tests by the same students at the completion of the program. Results indicate I-STEP to be useful in improving students' self-concepts and increasing their awareness of values. (Young and Baird, 1974).

Central Michigan: An undergraduate media course at Central Michigan University is competency-based utilizing modules. Evaluation findings reveal a ninety-seven percent level of achievement on the objectives related to equipment operation and transparency preparation, and an eighty-eight percent level of achievement on the objectives related to media theory and utilization (Bergeson, 1975).

A state supported grant project at Central Michigan University developed a competency-based college level elementary science education methods experience (or course). A major theme was cooperation between university faculty members and elementary school teachers. Performance objectives were prepared in a modularized format incorporating the State Minimal Performance Objectives in Elementary Science into the college level elementary science experience in cooperation with Mt. Pleasant Public Schools.

To assess performance during Field Experience II, supervising teachers completed a checklist rating form which evaluated the students' performance in preparing lesson plans and teaching lessons in science. Sixteen performance criteria were identified for lesson planning and twenty for lesson teaching. Several limitations of the data collected were cited. The feedback from course achievements and the simulations and role-playing of mini-teaching and student teaching must be viewed as an incomplete set of data at best. No conclusive answers can thus be provided about the hypotheses generated in the content of the project.

Only 35 questionnaires were returned by supervising teachers and data were, therefore, culled in this non-random fashion. Only 18 students were rated specifically in science. Of the 16 planning factors rated, 70% of the students were rated successful in all but 6, and these were not specifically developed in the previous instructional program. Of the 20 performance teaching factors, 70% were rated successful in all but 4. Due to the limitations of the project design, no conclusions can be drawn concerning this aspect of the project.

Approximately 13 non-CBTE students and 31 CBTE students were rated on planning of lessons and actual teaching in classroom areas other than science. Mean ratings for CBTE students were higher than for non-CBTE students on all variables, however, the differences were not significant. It must be pointed out that samples involved in these comparisons are suspect due to the low rate of return of ratings, and since CBTE and non-CBTE students were not selected on a random basis, the assumption of comparability of the groups must be examined. In view of these design limitations the data cannot be used to support any conclusions concerning performance ratings (Oana, 1975).

Illinois State: A study at Illinois State University dealt with the utilization during student teaching of the knowledge and skills acquired before student teaching. Of the thirteen skills studied, ten were used on a daily basis by more than half of the respondents (McAteer and Lewis, 1975). A second study by Wiseman (1974) compared a sample of seventeen social studies student teachers from Illinois State's competency-based program with a sample of twenty-six social studies student teachers from the University of Illinois on eleven variables derived from the Purdue Teacher Evaluation

Scale, the Student Teacher Appraisal Report, and Flanders Interaction Analysis System. The eleven variables were: Co-op teacher ratings, supervisor ratings, motivation, control, subject matter, communication, methods, fairness, i/d ratio, revised I/D ratio, and extended I/D ratio. On all the variables except supervisor ratings, mean scores of I.S.U. students were higher than those of University of Illinois students, but none of the differences were statistically significant.

In the teaching performance test study by Waimon and Ramseyer (1974), previously described, the laboratory school pupils rated the student teacher's performance in the teaching test in which the pupil participated. The rating instrument (Aubertine-Johnson Teacher Performance Appraisal Scale) consisted of ten items each with a seven point scale (seven is highest rating). The ratings were averaged over all ten items on the scale and a mean pupil rating of 5.14 was attained. It was reported that this exceeds the pupil ratings given most teachers since pupils tend to rate teachers at the mid-point on instruments which consist of rating scales (no supporting data provided).

New Mexico State University: NMSU reported having hard data that no student is admitted to the final student teaching block for elementary teaching if the student has not successfully passed an arithmetic competency test which is programmed. In addition, they have much judgment feedback on the competency-based courses (Hosford, 1975).

The University of Southern Mississippi: In their program, an intern must be judged competent in all specifics of university training covered by the module before he is permitted to attempt to teach children in that area. He is observed by team leaders, university professor, or program development specialist and rated on the field competencies listed on the module (Franke, 1975).

California State University-Hayward: A record of competencies achieved is maintained for each candidate, with verification made by a variety of individuals. Teacher candidates are also evaluated by master teachers in terms of their success in promoting pupil learning (Della-Dora, 1975).

Specific Modules

Temple University: A module testing strategy implemented at Temple University's Intern Teaching Program was referred to in the section on pupil growth. An experimental group (EPIS module treatment) was compared to a control group in time spent on EPIS module activities (establishing pre-instructional set) as a percent of total lesson time and changes in incidence of use of task specifications identified as teaching steps.

Data were collected in a training or controlled phase using microteaching as a pre-and post-test with a four week interval between testing. In every case the data favored the experimental module group. The data suggest that the module was indeed doing what it was supposed to do. For a non-controlled (field) situation, data were collected in the fall of the intern's full teaching year and during the subsequent spring term, again using a microteaching format. Preliminary inspection of field situation data suggests a cautious "yes" to the question regarding perceived utility of the behaviors contained in the module (Bruce, 1975).

Queens College: The Early Childhood Integrated Year Program (ECIYP) at Queens College, CUNY is competency-based with specific reference to the use of instructional modules as a training strategy. Although seventy-five modules were developed, data on the science and reading modules were reported since they were most heavily field tested. In December 1973, a form of The Inventory of Teacher Knowledge of Reading was administered to 117 ECIYP students, and had been administered in the Spring of 1973 to all elementary education students and early childhood students completing the old education sequence. Thirty scores were selected at random from each of these groups for comparison. The former early childhood group scored statistically significantly higher than the current early childhood group and the former elementary group. Results may reflect the effects of the instructor rather than the treatment, and it was also reported that no students in the new program had completed the reading modules at the time of the test, most were only halfway through, and only the new program students were not required to provide their names. It was concluded that consideration of these factors indicates the scores by the ECYIP group were favorable in comparison to the other group (Schwartz, 1974).

University of Wisconsin-LaCrosse: Merwin (1974) studied the effects of self-instructional modules (SIMs) upon the preparation of secondary-level social studies teacher trainees. Forty trainees enrolled in the social studies methods course were paired on the basis of a pre-test on instructional objectives. The experimental group received the four SIMs in lieu of conventional classroom instruction, with no scheduled class meetings. The control group treatment consisted of lectures, demonstration lessons, and micro-teaching. An achievement test consisting of seventy, four-option, multiple-choice items, was used for both the pre- and post-test divided into four subtests. An observation instrument, the Cognitive Quality Rating System, was used to record the cognitive behaviors of student teachers based on three unit plans, three tests, and three audio-tape recordings. A mean score of cognitive quality was derived. Achievement post-test data indicated statistically significant differences between the control and experimental groups, favoring the experimental (SIMs) group, on each of the four subtests. Data on the cognitive quality of instruction was divided to reflect each of the dependent variables (discussions, plans, tests) and a composite measure. The data reveal statistically significant differences favoring the experimental group on each of the three dependent variables and the composite measure.

University of Georgia: A program at the University of Georgia developed a proficiency module entitled Magnetism, Electricity, Heat, and Microscopic Viewing in Science Instruction for use in the elementary science methods course. Twenty senior women were randomly assigned to an experimental section of the elementary methods course. A pretest was administered to this group. Students were allowed three weeks to complete the module, which included a variety of learning activities: laboratory practicum, readings, small groups, and individual help. The post-test was then given. The increase in the mean score was significant at the .05 level (Ricker and Hawkins, 1969b).

Microteaching

The Far West Laboratory: (Borg, 1969) has done considerable work on the development of the minicourse, an instructional microteaching package. The research was intended to test the effectiveness of the minicourse in changing specific teaching behaviors. Twenty-minute pre- and post-minicourse videotaped recordings of 48 participating teachers' classroom lessons were made and scored by trained raters. Results of a post-test administered two months later indicated that the teachers had retained most of the skills acquired in the minicourse without the need for a refresher course. Also, four months after training in minicourse one, the teachers retained the significant gains found immediately after the minicourse.

Johns Hopkins University: A study of the effectiveness of individually prescribed microteaching modules was studied in the MAT program at Johns Hopkins University involving pre-interns (Young and Young 1969). The experimental group of ten interns was compared to a control group of twenty-two interns (no microteaching). Ten-minute, video-taped samples of teaching performance were compared. The experimental group demonstrated a significantly higher mean frequency of selected, specific teaching behaviors. The experimental group did not have a significantly higher indirect/direct ratio, but did have a higher revised indirect/direct ratio. The data also suggested a greater degree of flexibility or number of alternative teaching patterns by the experimental group, as well as a significantly greater number of "emitted" responses and lesser number of "elicited" responses. These are preliminary findings and should not be considered conclusive.

Illinois State University: Students in Professional Education Sequence in the Illinois State University competency-based program were randomly assigned to two treatment groups. Thirty students received formal supervision by trained supervisors along with self-instructional training materials during a microteaching experience, and twenty-five students were exposed to the self-instructional materials, but received no formal supervision. The students taught a fifteen minute microteaching lesson to a small group of peers. Four lessons were taught by trainees, and the videotape of lesson four was used as a basis for data collection. The instrument consisted of a nine point scale designed to be used by an observer to rate teachers on the skills of teaching the objective, set induction, questioning, reinforcement, cueing, stimulus variation, repetition, use of examples, closure, and silence. No significant differences were found between the two groups. It was concluded that apparently self-instructional materials are as effective by themselves as when formal supervision is added (Edwards, 1975a).

In a follow-up study two groups who underwent training on self-instructional materials (one was given supervision, the other not) were compared to a control group not experiencing self-instructional materials or microteaching. Large and significant differences between both groups and the control group were found in terms of specific teaching skills favoring the supervision group in that comparison and the two experimental groups in the other comparison (Edwards, 1975b).

Indiana University: The minicourse project at the Indiana University was described previously under the pupil growth section (Strickler, 1974). Thirty-three pre and inservice teachers taught 20-30 minute lessons to three pupils on reading decoding skills. Comparison of the pre- and post-course teaching behavior of the sixteen inservice and preservice teachers trained with the minicourse indicated that the change in teaching behavior was in the direction expected for twenty-four of the twenty-seven specific behaviors rated. The teaching behavior of the sixteen inservice and preservice teachers who participated in the minicourse training was compared with the teaching behavior of the seventeen inservice and preservice teachers who did not receive the training (control group). Point biserial correlations between the treatment condition and covariance-adjusted post-course teaching behavior were computed. Results of the analysis indicated that the frequency of teacher's use of twenty-five of the twenty-seven behaviors in their post course lessons was associated with the treatment, i.e., behavior of teachers trained with the minicourse was consistently different in the expected direction, from the behavior of non-minicourse trained teachers. For preservice teachers alone differences were found on twenty-two of the twenty-seven behaviors, for inservice teachers alone differences were found on seventeen of the twenty-seven behaviors.

Reactions and Feedback

This section consists primarily of institutional reports. however, the section is concluded with the results of surveys and an awards program.

Wheeling College: The most negative feedback encountered was from an institution that decided to abandon its CBTE program. The decision to terminate the program at Wheeling College (West Virginia) was based on an analysis including conferences and interviews with principals, directing teachers, student teachers and college based personnel who had participated in the CBTE program. The decision to terminate the program and to initiate a more conventional one was based on the following information:

1) Theoretical assumptions tended to be acceptable and supportive of a trend to develop teaching centers and the use of clinical teachers; however, implementation procedures were poorly executed in terms of scheduling and pre-professional orientation.
2) The college faculty in the arts and sciences were critical of the program since it removed students and the education faculty from the campus for the largest part of each semester. Also, program terminology and the several objectives in its overall design were not understood by the academic faculty.
3) Program objectives were constructed around seven areas of competency which were written in open-ended, subjective language. Check-mark ratings were subjectively assigned on a performance index scale, but descriptive categories including such terms as "factors, scheme, and process operations", were left undefined.

4) The entire professional sequence of twenty-one hours of credit was compressed into one semester. No provisions were made for introductory course work or for discussions of professional ethics, rights, and responsibilities.

5) No significant body of information was required of teacher candidates relating to history, philosophy, psychology, sociology and economics and its impact upon education prior to the actual beginning of student teaching.

6) Principals and directing teachers felt that a full semester of student teaching was too long. Professional sharing seemed to have its limits.

7) A sampling of opinion by participating directing teachers showed that the CBTE program was not strongly appealing to them. Inadequate pre-student teaching preparation and the extended student teaching residence requirement were pointed out as shortcomings.

8) High Schools designated as teaching centers complained of saturation problems with respect to a high concentration of student teachers for both semesters of the school year, (Caton, 1975). The relationship between several of the above concerns and the concept of competency-based teacher education should be carefully compared by the reader.

University of Nebraska-Lincoln: The NUSTEP project at the University of Nebraska-Lincoln collected reaction data in addition to the information previously described. Larsen (1970) used a survey and observational ratings of the first NUSTEP student sample and found both attitude shifts and changes in selected behaviors. A three item open-ended questionnaire was used to get descriptions of student participation in the last micro-teaching assignments. NUSTEP students came to perceive themselves less as information givers and more as facilitators of the educational process. A second NUSTEP study (Hughbanks, 1971) asked thirty randomly selected student teachers to rate themselves. The attitudes of the subjects toward the behaviors taught in the NUSTEP program were more positive at the close of student teaching than they were before the student teaching experience.

Kelly and Walter (1971) studied students trained in NUSTEP during 1969-70 (first year of NUSTEP) and 1970-71 and these were compared with students in other sections of the teacher education program. The first study used a Teacher Preparation Questionnaire which was completed by 112 graduates who were completing their first year of full-time teaching. The sample included those trained in the regular preparation program and those trained in NUSTEP. Both groups described student teaching as the most important part of their teacher preparation experience, however, a significant percentage of the NUSTEP trained students rated their NUSTEP experiences as being even better than student teaching. NUSTEP teachers as a group rated their training as either first or second in importance, while only 61% of the traditionally trained teachers ranked these courses in the top half of the twenty items ranked. Almost 23% of these respondents ranked one or more of the courses as the worst part of their training. The NUSTEP program appears to have had considerable impact on the affective objective of creating a more confident teacher.

Part II of the Teacher Preparation Questionnaire centered on the use of innovative practices. Across all twelve items, NUSTEP trained students were significantly higher in reported rates of usage of most items ($p < .025$). NUSTEP teachers appeared more flexible, more student oriented, less concerned with control for the sake of control, more confident of their innovative capabilities within the classroom setting, and less concerned with what could be considered issues peripheral to actual classroom processes.

The Teacher Preparation Personal Reaction Form was also administered by Kelly and Walter who collected 160 responses. A significant difference ($p < .05$) appeared in attitudes reported by the two groups in favor of the NUSTEP trained sample. Among the findings were that NUSTEP students:

- Felt more adequately prepared in the use of audiovisual materials.
- Were more positive in their overall rating of the teacher preparation program.
- Described their preparation as providing better models of teaching than those commonly found in schools.
- Expressed more positive attitudes about their university supervisor's actions in identifying behaviors which they would need to demonstrate in student teaching, and how they would be evaluated and graded.
- Described their university teacher preparation instructors as modeling the new practices which were suggested.
- Were significantly more positive about the statement that their teacher preparation program offered variety in the presentation of teaching strategies (Kelly and Walter, 1971).

Temple University: The Program VITAL study also included data on the perceptions of various groups regarding the program. Instruments included a Staff Questionnaire, Intern Questionnaire, (Form B, Form C), and Supervisor Rating. The instruments asked the respondent to indicate the degree to which each of twenty-one statements described Program VITAL, degree to which certain aspects were valued, degree to which the program had been successful in developing competent teachers, etc. Data were collected from 114 intern vocational teachers, twenty-one supervisors of the interns, six senior teacher educators, seven field resource-persons, and thirty-eight resident resource-persons. Research questions and results were as follows:

1) To what degree had each aspect of the program functioned as it was designed to function?
   a) Staff indicated that only one of twenty-one aspects was dysfunctional.
   b) The interns reported three aspects as being dysfunctional.
2) To what degree did the staff value certain aspects of the program?
   Staff placed a high value on eight of nine aspects of the program (resource material mean rating was 2.1, outside of accepted range of 1.0 to 2.0, on a scale of one to five).
3) To what degree had the staff experienced problems with certain aspects of the program?
   The staff, as a whole, experienced problems with only two of the twelve aspects of the program.
4) To what degree did the staff consider the program successful in developing competent vocational teachers?
   All levels of the staff considered the program to be very successful.
5) To what degree did the interns perceive each of the eighty-nine competencies contributing to their success as vocational teachers?
   A median score within range of 1.0 to 2.0 was found for sixty-nine of the eighty-nine competencies in the program. More than half of the interns indicated that another seventeen competencies (a median between 2.1 and 3.0) made somewhat of a contribution to their success.

Also, interviews were held with the director or principal, supervisor, resident resource person, and interns in seven area vocational technical schools to obtain first-hand observations about Program VITAL. The respondents were substantially pleased with the operation of VITAL in their schools, the program is well received and highly regarded, and it is perceived as a vast improvement over the previous method of preparing teachers. In addition to convenience of the program, the real merit of the program was perceived to be the contribution made to individual teacher development. Specific problems and needs are addressed, and much is self-paced (Adamsky, 1974).

University of Kansas: The Habilitation Personnel Training Project at the University of Kansas, previously described, collected data from the participating field-test instructors using short-response questions on an Instructor Evaluation form. For the most part, the instructor's comments served to reinforce the positive findings from other sources of data. Trainees, interviewed on being introduced to competency-based project materials and after completion of the assigned modules, reacted quite positively to modules just completed. These latter opinions represented a considerable improvement over those expressed during the first interview. Finally, expert appraisers have, in total, reacted to HPTP materials in a positive manner. The modules thus far completed appear to be usable and capable of accomplishing the purpose for which they were intended (Weisenstein, 1974).

Texas A & M University: Denton, et al., (1975) collected student reactions to modules at Texas A & M. After completing each module students were requested to complete an "Affective Antenna" providing information on the classroom learning environment specific to the module just completed. A semantic differential and Likert summative scales were used. Data on three of the modules (discipline, performance objectives, test construction) in terms of mean ratings on each of eleven items was reported. Although the data showed mixed reactions, it tended to be negative.

University of Georgia: Their science program sought reactions to an elementary science education module in two separate studies. Ricker and Hawkins (1969a) asked seventeen students who completed the module to evaluate it. Results showed:

1) All of the students in the trial group reacted positively toward the program presented.

2) The program generated interest in the laboratory practicum.

3) The module permitted students to work individually. There is an indication that individual differences were met.

4) This trial program was well received by the students. The students in this group want more of this kind of curricular activity. They considered this way of learning was more beneficial than the traditional lecture-discussion-demonstrations mode of instruction. In a follow-up study (Ricker and Hawkins 1969b) twenty students reacted to the module. All the students, except one, were favorably impressed with this means of organizing an instructional program.

Weber State College: Weber State implemented an individualized performance-based teacher education (IPTE) program in 1970. A comprehensive evaluation of the program conducted by an outside evaluator provided results in several areas. Student judgments of the program and its major component were generally positive. Analysis of student performance and opinion data show, first, that students generally react favorably to the delivery system used. Graduates who as students had a negative attitude toward WILKITS (modules) judged them to be an effective means of delivering instruction from their perspective as first-year teachers. Graduates of the program also feel that they are effective in applying the competencies learned in the program and judged themselves as more capable of self-direction than first year teachers for other programs. Each of these judgments was confirmed by cooperating teachers, school principals, and school district supervisory personnel. Graduate placement data tend to confirm the positive attitudes, as the placement rate was the highest for all teacher education programs in Utah.

The learning environment promoted by the program was judged to by non-threatening, effective, and humane, with one exception-the "tyranny of the quarter," i.e. students tend to procrastinate in an individualized program and there is some pressure to complete on schedule since if they do not complete within the quarter they receive a no-credit grade. Students and graduates indicated overwhelming approval for behavioral objectives. In early stages of the program, faculty members expressed some discomfort with their new roles and reservations regarding ability of students to achieve without meeting on a regular basis. Increased familiarity with their roles brought confidence, and students and graduates validated these new roles indicating they learn more from contact with the faculty in their new roles than they do from classes where faculty perform in their traditional roles. Students agreed that the amount of effort required for education credit was much greater than that required to obtain an equal amount of credit in noneducation classes (Parker, 1974).

SUNY-Cortland: Project Change, SUNY-Cortland, is an early childhood and developmental education graduate program which was previously described. Implemented in 1971, a formal research evaluation was carried out during the 1973-73 training year. A Teacher Self-Report Questionnaire was used to obtain feedback data from Project graduates, Project fellows (in training), and a control group who were considered excellent by their principals. The Teacher Questionnaire showed that Project teachers viewed themselves as teaching with an informal style, while the control group did not. Also, the effectiveness of the graduate courses in early childhood education was rated by teacher participants on the Hartley-Hogan Course Evaluation Questionnaire. The results of the evaluation were favorable. (Scheers and Lickona, 1975).

Brigham Young University: The ISTEP program at Brigham Young University conducted a follow-up study of their graduates. Former ISTEP students, who went through the program in the fall of 1968 and the spring of 1969, were asked to evaluate their experience in ISTEP by responding to a questionnaire. They were asked to rank each of forty-seven objectives on 1-5 scale in terms of importance of usefulness. A self-assessment part asked for indication of utilization of the objectives, and a general evaluation of the ISTEP program was requested. Thirty-three graduates who returned the questionnaire had actual teaching experience. Lowest possible total on any item was thirty-three and highest was 165. Reported values ranged from eighty-one to 149, with forty-two objectives being rated above ninety-nine (a total indicating "useful" or above). Two thirds of the forty-seven objectives were being used by at least 50% of the teachers (Baird, et.al.,1972).

University of Toledo: A study was conducted to ascertain the perceptions of student teachers and first year teachers about their training in the University of Toledo's College of Education CBTE Program (elementary). Questionnaires were sent to sixty-five first year teachers and sixty student-teachers. Twenty-two first year teachers responded and twenty-one student teachers completed the questionnaire. Responses were divided into three categories: A=First year teachers in Multi-Unit/IGE Classes; B=First year teachers in Self-Contained Classes; C=Student-teachers in winter quarter 1975, Thirty-eight modules were rated, and ratings were on a six point scale, as follows: 1=Very Useful in my teaching; 2=Useful; 3=Somewhat Useful; 4=Very Seldom Useful in my teaching; 5=Not At All Useful; 6=I don't remember the module; D=Drop the module from the Program. The number of modules receiving a mean rating greater than three ("somewhat useful") by any of the groups A, B, or C will be noted here. No modules received a rating of four, five, or six from all three groups, two modules received such a rating by two groups, and eleven others received this rating by only one group. In general, the forty-three participants did not strongly suggest dropping any of the current thirty-eight modules in the elementary CBTE program. Field experiences were identified most frequently as the most important strength of the program. Various other strengths and weaknesses were also identified. Nineteen of the twenty-two first year teachers believed they were well or adequately prepared for their current positions (as compared to other first year teachers in their building). The three negative responses also reprted not teaching at the appropriate level, not teaching the subject area preferred, and not having permanent status (a paid aide). In response to suggestions for improving the program, field experiences rate the highest mention. The authors of the report indicate that they do not suggest the survey is the best current appraisal of the program, the number of respondents was low, and the data reflect the sequence and format of the modules at that time (Cooke and Gibney, 1975).

Michigan State University: MSU and Lansing Public Schools initiated a CBTE project and collected feedback data in 1973. Twenty-two preservice participants were asked to rate on a scale from 1 to 5 the extent to which they thought the skills they had gained would help them to be more effective teachers (1=not more effective, 5=much more effective). The results in three areas of development were as follows:

	$\bar{X}$	S.D.
Reading	4.83	.39
Social Emotional	4.04	.98
Math	3.35	1.30

In addition, when all respondents (27) were asked how valuable a future competency development program would be to teaching, the typical response was that it would be most valuable, $\bar{X} = 4.7$ on a five point Likert scale, S.D. = .86 (State of Michigan, 1973).

University of North Florida: This was recently the first institution in Florida to be accredited by the State using criteria for CBTE programs. Several follow-up questionnaires were distributed. A lengthy course evaluation document indicates a consistently generally positive reaction to individual courses. Data was collected using multivple choice, semantic differential, and open-ended response modes. A graduate student questionnaire asked students to indicate their reactions to statements about the program on a scale from one to five (1=strongly agree), and reactions were generally positive. An example is "I feel that the theory and practice of offering a competency-based program utilizing competency modules is a definite benefit to the student and credit to the University of North Florida," which received a mean rating of 1.41 (73 respondents).

A report from seventeen immediate superiors of graduates from the program in the Department of Administration and Supervision reflect a strong positive evaluation of the ability of the graduates (University of North Florida, 1975).

Northeast Missouri State University: Northeast Missouri State University developed in 1971 a Teaching Skills Center and specific program objectives in terms of competence to be demonstrated have been defined. The thirty graduate assistants who have served during the three and one-half years of the Center's operation have been unanimous in asserting that they observed significant development among their trainees. Consistently high morale seems further evidence of staff members' favorable perceptions of the program's significance. Class members evaluations have been strongly positive.

Approximately two semesters prior to the opening of the Teaching Skills Center, an instrument was administered to 550 prospective teachers to obtain their perceptions of their readiness at the end of their conventional training programs on six components. The same form was used to collect 150 ratings during the 1971 summer Teaching Skills Center program. Each Component was rated from poor to very good and assigned a value from one to five. Using the Chi Square test, in each of the six categories a difference was found that greatly exceeds the .005 level of significance. Trainee's subjective responses were also analyzed intensively at the end of each semester. Both the tone and content of the prospective teachers' subjective evaluations were overwhelmingly positive. Responses were also received from many cooperating administrators and teachers who supervise preteachers and student teachers. Without exception these statements were positive and supporting. References to gains in poise, skills, and overall readiness were made by school personnel, and current student teachers were said to be much better prepared than those who reported to these schools prior to the Center's opening. Student teachers from Northeast who are placed in districts with student teachers from other institutions seem to elicit a disproportionate share of highly favorable comparisons, with cooperating teachers frequently asserting strong preferences in their favor (Northeast Missouri State, undated).

University of Wisconsin-Superior: The Competency-Oriented Personalized Education Program (COPE) at the University of Wisconsin-Superior, initiated in 1973, utilizes learning packages (L-PACs) and a Resource Center as the focal point of the learning experience. After one year of operation, students and faculty were asked to respond to a number of statements about the COPE Program by indicating the extent to which they agreed or disagreed with each statement. Student responses (126 returns out of 200 requests) revealed a general pattern of support for the COPE Program. For example, 77% agreed with the statement "The COPE Program will prepare me to be a better teacher than will the traditional program," and 82% agreed with the statement "L-PACs were usually clear and direct." Thirteen faculty members responded to the statements about the COPE Program. The responses demonstrated a general pattern of support for the COPE Program. Eight of eleven responses agreed with the statement "the COPE Program is superior to the previous mode of instruction of the College of Education," and all thirteen indicated a belief that the "COPE Program has the potential of being a superior system of instruction for preparing teachers" (University of Wisconsin-Superior, 1974).

University of Texas at El Paso: University of Texas at El Paso has evaluated their competency-based Teacher Center Project. A Course and Instructor Evaluation Questionnaire was used to determine the effectiveness of instructional planning and presentation of the socio-cultural staff. Intern responses to the Questionnaire were in general very favorable. The intern responses regarding core organization and planning indicated a high degree of intern satisfaction. Fifteen of seventeen interns agreed that the purposes and objectives of the courses were clear and definite, and modules provided a rewarding and valuable educational experience. Several strengths and weaknesses of the Professional-Technical Core and other cores were listed (UTEP, 1973).

University of Nebraska-Omaha: The Secondary Education Individualized Instruction Project (SEIIP) at the University of Nebraska-Omaha is an individualized systems-oriented CBTE approach. During the spring of its first operation year, a study was conducted in which student achievement (previously reported) and attitudes under the individualized and traditional methods of instruction were compared. A number of informal observations were made by the Instructional Staff concerning the attitude of students and other faculty toward the individualized instructional mode. Although much of the reaction tended to be positive, those who had negative attitudes toward the program were more extreme than those who were in the traditional mode of instruction. Those who successfully completed the course felt that the individualized approach was worthwhile although initially difficult. The new approach tended to discourage more students than did the traditional method of instruction. The attitudes and reactions of students who experience the individualized instructional mode are more positive than those of students who are instructed in the more traditional means (Ziebarth and Jones, 1971).

College of Saint Teresa: The undergraduate elementary science education program (UPSTEP) at the College of Saint Teresa (Minnesota) is a competency-based project in unified science. Students receive 40-50 learning modules (MODS), sixteen of which are required, in each of the three courses. A semantic differential was used to detect changes of attitude toward four concepts: science teaching, science, inquiry approach, and children. The instrument was administered before and after the three term sequence of Unified Science. Each of the concepts was rated on twelve polar scales, with seven rating steps for each scale. A t-test of the results indicate statitically significant changes of attitude toward these concepts and in a direction consistent with the goals. Because a valid control group was not possible the researchers could not be certainly assured that the program was the cause for apparent changes, but due to continual student feedback they were in a position to feel secure that the program was a major contributing factor.

One of the outstanding characteristics noticed by the science faculty members in observation of student teachers is their desire and ability to procure the simple equipment necessary for individualizing science investigations by children. This concurs with observations made by principals, the education department supervisor, and directing teachers. The student teachers also prove to be creative in turning a traditional textbook approach into one of inquiry and investigation (Battaglini, et.al., 1975).

Western Kentucky University: A project conducted by Western Kentucky University was part of a national effort sponsored by Teacher Corps and the National Center for Educational Research and Development. The Western Kentucky effort was concerned primarily with ascertaining the effectiveness of the Teacher Corps program in developing and implementing competency-based teacher education in a program designed to prepare middle-school teachers. Several objectives were established and data were collected in three areas: analysis of the intern's attitudes and feelings toward Teacher Corps and CBTE, the organization of new courses related to CBTE, and the degree of faculty interest in CBTE. The first objective was to prepare interns to relate successfully to children and parents from low-income areas. The Cultural Attitude Inventory (CAI) was administered at the beginning of the project and at the post-service period. That the interns had adopted more liberal attitudes toward low-income families and their children was evident by the 8.70 increase in mean score points. Questionnaires and interviews conducted throughout the project also demonstrated progressively more realistic changes in attitudes toward disadvantaged children.

Objective two was to provide each intern with some competency in specified basic teaching skills. To determine success in this objective, thirty-six interns were asked to reply to questionnaires and opinionaires. All interns said they were more adequately prepared to enter the teaching profession than the average teacher. Only one intern felt that he could not achieve more and learn more from a competency-based program. All interns agreed their courses during the program were better in content and method of teaching than before the competency-based instruction was initiatiated, that they were using competency-based techniques in their teaching and their students were benefiting, and that they felt they were succeeding in the classroom. Information collected also was favorable on three other objectives specific to the project. It was concluded that competency-based teacher education is an effective means of dealing with teacher education, and that traditional faculty can and will adopt the concept if they are given technical assistance and support (Estes, 1971).

Mississippi State College: Mississippi State in Jackson made the transition from traditional to competency-based programs starting with the faculty and interns of their Teacher Corps Program in 1970. The program consists of eight courses in early childhood education and six hours of internship. The courses were described as converted to competency-based instruction to extents varying from fifty to one-hundred percent. Thirty-six Teacher Corps Interns, nineteen regular graduate students, and sixty-eight undergraduate students, were asked to evaluate the program using a questionnaire and a five point scale. Graduate student mean rating of competency-based instruction was 4.0 as compared to 3.2 for traditional instruction. Undergraduates gave a mean rating of 4.5 to competency-based and 3.1 to traditional instruction, while the interns rated competency-based significantly above the traditional approach (3.9 to 2.6). The majority felt that they were under less pressure, would achieve more, and would receive higher grades in CBTE.

All the faculty members involved in this program indicated a positive feeling about competency-based instruction and expressed a willingness to try the approach with their other classes. All of the faculty members felt that the grading system should be changed to a pass-fail system. Also, all the faculty members felt that the end-product of such a system was better prepared teachers and was worth the effort to overcome such problems as do exist. The initial recommendation was to involve the total teacher education faculty in an effort to implement further competency-based instruction (Napier, 1971).

Queens College: The Early Childhood Integrated Year Program at Queens College, CUNY, is a CBTE program which specifically focuses on modules. Achievement data were previously described, but feedback on the science and reading modules was also collected from students, teachers, and college faculty. Reactions appeared mixed, with both positive and negative aspects cited. Immediate implementation, learning by doing, personalization and individualization of instruction, and clarity of outcomes were cited as positive factors. Negative aspects included not providing an overall paradigm of Early Childhood Education, lack of unifying element, content laden, fractionalization of the curriculum, suited to easily identified skills only, and easy subversion of the pre- and post-assessment process (Schwartz, 1974).

University of Wisconsin-LaCrosse: Merwin's research (1974) at the University of Wisconsin-LaCrosse on self-instructional modules (SIMs) for secondary-level social studies teacher trainees was described previously. A Student Evaluation Form was used to record the opinions of the experimental group (N=20) concerning their experiences with the SIMs. A questionnaire was distributed to the experimental group following the mid-term achievement test. Responses were anonymous. The data revealed that teacher trainees using SIMs in lieu of conventional classroom instruction held a generally favorable attitude toward use of autoinstructional techniques. They found the modules to be an enjoyable and effective device for developing understandings and skills in planning, questioning, and testing. They also expressed a desire to increase the utilization of this device in the methods course.

Southern Colorado State College: An M.A.T. Program in Industrial Education at Southern Colorado State College is a competency-based program. A questionnaire was sent to the thirty-five graduating students in 1974, twenty-one responses were received. All twenty-one rated the total program as excellent; the teaching competency block received sixteen "excellent", four "good," and one "fair" rating.

Five aspects of the Teaching Competency Block were rated: use of learning modules, emphasis on independent study, emphasis on classroom-related tasks as opposed to theoretical knowledge, lack of regularly scheduled class meetings, and lack of paper and pencil tests as indicators of student achievement. The results indicate that all five aspects were well received by a large majority of the respondents. Out of 100 possible responses only three "undesirable" ratings and no "highly undesirable" ratings were received (a scale of five). Respondents were also requested to react to twelve statements on a five point scale ranging from "strongly agree" to "strongly disagree." All twenty-one "agreed" (five) or "strongly agreed" (sixteen) that modules should be continued, and other statements received similar support (Strader, 1974).

University of Nevada, Reno: This institution collected opinions from students concerning performance based kits in one particular course. In the spring of 1974, seventy-eight percent of the students responding did not like the elementary mathematics methods kit. In the fall of 1974, seventy-four percent indicated they did not like the kit. A third opionaire found fifty-six percent indicated they did not like the kit. A third opinionaire found fifty-six percent liked the kit, and when the question was rephrased to determine if the students liked the kit better than the traditional lecture course, a ninety-three percent affirmative response was attained. Ninety-one percent would like it modified. The reading methods kit also had a mixed response. In the spring of 1974, fifty-five percent of the students indicated they did not like the kit. In the fall of 1974, after modification, sixty-eight percent liked the kit. When students were asked if they would like all courses in a kit format they responded negatively by ninety-seven percent.

In addition to the math and reading kits, the program has some mini units in secondary education general methods. A questionnaire was mailed to graduates in regard to these kits asking them to respond on a five point scale ranging from "strongly agree" to "strongly disagree."

In response to "the self-paced format of part of my professional education helped me become more self-reliant," fifty-two percent strongly agreed or agreed while fifteen percent disagreed or strongly disagreed. When asked if the competency-based format caused them to acquire more skills than the traditional approach, thirty-six percent strongly agreed or agreed, while forty-nine percent had no opionion. In terms of wanting to try self-paced materials for their own students, fifty-four percent strongly agreed or agreed, with fifteen percent selecting the two disagree categories (Johns, 1975).

Wayne State University: Wayne State University has designed a Vocational and Applied Arts Education Competency-Based Pre-Certification Program which has been in operation since fall, 1971. Cooperating teachers, interns and pre-interns were asked for their reactions to the VAE-CBTE Program in Jan. 1974. To obtain feedback from the cooperating teachers a telephone survey was conducted of those who supervised interns in fall, 1973. Forty-one of a possible forty-five respondents were contacted. Some strengths identified were:

- Global evaluation of the intern's performance is eliminated and one can concentrate on competencies supported by specific objectives.
- Program is well organized.
- Interns are able to organize course materials, plan semester's work, and write performance objectives.

Some recommendations for changes were: streamline critiquing materials, shorten test items, eliminate volume of papers to be handled, and give interns more depth in content area.

Interns were requested to list strengths and weaknesses of the program. Thirty-five of forty-five responded. Positive aspects included performance objectives, self-pacing, and instruction. Recommended changes included more class attention from college supervisor, stabilize the program, and expand the philosophy of education part.

Pre-interns, while in class, were also asked for recommendations. Data were gathered from 107 of a possible 119 respondents. Strengths included sequenced experiences leading to specified competencies, competencies made clear at beginning of program, and opportunities for practical experiences. Changes recommended include providing early experiences in the school, analyze competencies to insure relevance and allow for more teacher and pre-intern contacts (Johnson, 1974).

The Institute for the Research and Development of Competency-Based Teacher Education Programs of the Division of Teacher Education at Wayne State University, under contract with the Vocational-Technical Education Service of the Michigan Department of Education, designed and developed in-service materials for the purpose of training local vocational educators on the use of competency-based instruction.

Five modules were developed, a training workshop was held for vocational teacher educators, and six workshops were conducted for vocational education teachers. Participant vocational teacher educators felt positive about competency-based education subsequent to the workshop. They also felt they had acquired considerable knowledge through the modules. An attitude survey from the vocational teachers showed very positive feelings about competency-based education, and evaluation of the modules was quite favorable. (Sie, 1975).

Central Michigan University: CMU has in operation a competency-based program in student teaching at its Northeastern Center. Feedback has been obtained each semester from the current participants in the program. This evaluative feedback has sought to determine whether they "enjoy" the program, and whether they benefited and in what ways from the program. A strong majority of the respondents have indicated they feel they had a very relevant and helpful experience. The general commentary seems to reflect upon an awareness that they have gained, beyond the traditional classroom-student teaching experience, knowledge about "how to be a better teacher", at a level far beyond their expectations. This awareness has resulted in both expressed and observed confidence of a high order (Meyer, 1975).

The Central Michigan state grant project in elementary science, previously described, also collected student attitude and self-achievement ratings. Findings were as follows:

1) What are the outcomes of competency-based instruction in science at Central Michigan University?
A sample of 90 students selected from nine sections of students who used the CBTE materials during the initial try-out in the winter of 1974 were used as the sample for self-ratings of achievement, perception of achievement support, and attitudes toward science process and knowledge.

   a) Achievement Self Report. Results of this evaluation revealed that only two of 20 course goals received a mean rating less than three "moderately successful" (one other received a mean rating of 2.97).
   b) Achievement Support. Students in the revised try-out sample perceived the modularized, instructor independent, activity oriented assignments as the most significant factors in their achievement.
   c) Attitudes Toward Teaching Science. Pre- and post- instruction tests were given on attitudes toward 10 concepts in science. It should be noted that pre- and post-measures were not taken in matched groups. Only one of 10 comparisons resulted in a difference.

2) Do CBTE science students differ from non-CBTE students in achievement, perceptions of achievement support, and attitudes?

   a) Achievement Self Report. This was rated at the end of the initial try-out period using four groups of 40 students, three involved in CBTE and one non-CBTE. The mean achievement rating of CBTE students was greater than non-CBTE students and this difference was statistically significant ($P < .05$).
   b) Achievement Support. Using the same four groups of 30 students each, achievement support was compared on four variables. Differences in rating were statistically different for only two variables: independent activites and personal support. These were both rated higher by CBTE students.
   c) Attitudes Toward Teaching Science. The data provides no basis for distinguishing between CBTE and non-CBTE students' attitudes at the end of the science methods course (Oana, 1975).

SUNY-Fredonia: A teacher center developed on competency-based concepts was developed by SUNY-Fredonia in the Hamburg, New York, Central School District to provide both preservice training (interns) and inservice education. A questionnaire was used to determine the effects of the Teaching Center upon Hamburg teachers' planning, organization, evaluation, and instructional procedures. Teachers indicated that they increased use of: individualized instruction, organizational procedures conducive to individualization, objectives when planning instruction, other people in planning instruction, and diagnostic records and testing (Bicknell, 1974).

Milligan College: This program, previously described, collected data on National Teacher Examination scores. In addition, it was reported that the observations, the results from the students, and the evaluation from consultants causes the Milligan faculty to conclude that a small college can design a PBTE program which will be feasible and effective (Clark, et. al., 1973).

University of Southern Mississippi: Interns in this program at first expressed frustration in using competency-based models of instruction, but now have expressed favorable opinions of this method of instruction (Franke, 1975).

McNeese State University: This is a nine month program wherein juniors and seniors are involved in a combination of all education methods courses and student teaching. The program has been evaluated by the National Institute for Education through the Research and Development Center in Austin, and by the Louisiana State Department of Education for planning and implementation grants awarded in 1973, 1974, and 1975. The evaluation reports from these agencies have been good (Brand, 1975).

Rhode Island College: A field test was conducted on a competency-based course in reading methods during the spring and fall of 1973 in the Department of Elementary Education. Nine students were involved in the spring semester and thirteen in the fall. Preliminary results indicate that it is feasible to present a course in reading that follows a performanced-based design. The reactions of the students and faculty who participated in this project were, for the most part, favorable. Most of the participants were able to perform successfully in a loosely structured program. The few who experienced difficulty in this setting seemed to need more structure and guidelines. Reactions of students who participated in the course were highly favorable. When asked if they wanted more courses that followed a competency-base approach, all of the student respondents answered in the affirmative. Competency-based, compared to other courses concerned with methods of teaching, was viewed as much more valuable by fifteen students, more valuable by two students, and only one viewed it as less valuable.

Faculty who participated in the program had generally favorable reactions. In comparing competency-based courses to other courses concerned with methods of teaching, six faculty rated CBTE as much more valuable to students two rated it as more valuable, while none rated it as less or of little value. Comments from reading resource teachers and classroom teachers were also very positive (Stieglitz, undated).

Upsala College: Some results from Upsala College were reported previously, but reactions and feedback information were also obtained. In the module cluster dealing with diagnostic and prescriptive teaching, interns report success with pupils and this is substantiated by cooperating teachers (Hahn, 1975).

Arizona State University: A graduate professor at Arizona State University reports using the competency-based approach in instruction of doctoral seminars for four semesters. It has been particularly well received by doctoral candidates who consider it a refreshing approach because of the individual nature of the instruction. CBTE is also being implemented in the administrative internship program. A faculty member has supervised these internship experiences and believes that the approach is very desirable (Wochner, 1975).

Indiana University-Purdue University: The Indiana University-Purdue University at Indianapolis has developed several CBTE modules. Each module is field tested and evaluated. The students receiving the CBTE instruction have indicated both positively and negatively about their instruction. During their instructional period they are somewhat negative. They are positive about CBTE instruction being field centered, specific, and providing alternative learning activities. Graduates of the program have indicated they felt their learning superior to traditional instruction. Faculty who became involved in CBTE module development as a result of a Teacher Corps project are now using the modules in their regular classes for preservice and inservice training (Britton, 1975).

Towson State College: This college has been developing a competency-based program in student teaching and for several elementary education courses. Reactions to the competency-based program can be summarized as follows:

1) Students feel very positive about the competencies stated and the criteria

2) Public school teachers feel positive (though less so than students) about the program. The objection in the cases where negative reaction came is in the area of monitoring an extensive competency listing (Hauserman, 1975).

University of Missouri-St. Louis: This institution has a competency-based approach in two courses and the teaching apprenticeship. The psychology of Teaching and Learning course was rated with a semantic differential (six point scale) on ten items, all of which appeared to receive a favorable response. The School in the Contemporary Society course was rated in the same manner with similar results. Follow-up data on teaching apprentices indicates they become very proficient in the skills taught and can deal with the skills in a wide variety of ways and in a number of different situations. Feedback from those students indicates that they are using the skills both in classroom management and instruction with good results. An 85-90 percent hiring rate within the first year after graduation was reported (Laham, 1975).

Governors State University: The theory of competency-based instruction is being applied on a university-wide basis. Student attitudes were reported as diverse, more so than the faculty; however, the students support competency-based instruction because it clarifies what is required, permits more flexibility in satisfying requirements and allows credit for legitimate experiences. Competency-based instruction has opened up instruction to more flexible scheduling and liberalized independent study (Wight, 1974).

East Tennessee State University: This CBTE program has been terminated due to loss of Teacher Corps funds. The effectiveness of trainees in promoting pupil learning was determined to be as good or better than traditionally prepared students. Reactions to the program were reported as being positive (Finchum, 1975).

University of Michigan: An elementary science methods and an elementary math methods course are described as competency-based at University of Michigan. Reactions from both students and professors in the courses indicated that such a competency-based program should continue. Students felt that the amount of work required for a competency-based course was greater than that necessary for a traditional course. They felt, however, the course was worth the effort, but should have more credit. The Undergraduate Occupational Teacher Education Program is also competency-oriented and began in 1971. Interim evaluation has indicated its success, courses have received high ratings, and attrition is less than five percent (Cohen, 1974).

Michigan Survey:
In March, 1974, a survey form was distributed to the thirty teacher education institutions in Michigan to determine the extent of, and reaction to, competency-based teacher education activity. The question asking for a reaction to their program received twenty positive and zero negative responses (Roth, 1974b).

Educational Testing Service:
A comprehensive survey of CBTE institutions conducted by Educational Testing Service in 1973 was distributed to 124 institutions. One question asked that, if modules were used extensively, would respondents indicate their level of satisfaction with the modules currently in use. Reactions were mixed, ranging from very good (11), satisfactory (19), adequate (13), and mixed (14), to inadequate (1) (Sherwin, 1973).

AACTE:
It is also of interest to note that the American Association of Colleges for Teacher Education in 1971 awarded Weber State's program the Distinguished Achievement Award (its highest award) for excellence in teacher education. There have been approximately 550 observers of the program and their reactions have been overwhelming positive. In 1974 the Distinguished Achievement Award went to the Oregon College of Education, a CBTE program. In addition, in 1974, one award for Distinguished Achievement (second highest award) went to a CBTE program (the University of Bridgeport), and four of its five Certificates of Recognition went to CBTE programs (AACTE, 1974).

In 1975, a Distinguished Achievement Award went to the competency-based program at Saint Edward's University, and two Certificates of Recognition went to CBTE programs (College of Saint Teresa, University of Pittsburgh), (AACTE, 1975).

Summary

The purpose of this study is to report evidence on the effectiveness of CBTE programs. The methods of collecting data consisted of two surveys, and an ERIC search using a variety of descriptors. In total, information was obtained relating to 56 institutions and 65 programs from 66 different studies. It seems reasonable to assume that significantly more information exists.

Three means of determining program effectiveness were selected and used as categories to classify the information. The first was pupil growth data which included only studies where actual measurement of growth or behavior was used. This was divided into subcategories of effects of long term teacher-pupil contact (one semester or more), short-term teacher-pupil contact (microteaching, student-teaching), and effects on pupil behavior. A second indicator of effectiveness was the capability of the program to provide trainees with the competencies identified. Any evidence obtained through actual observation and assessment of competency was accepted in this category and placed into one of three subcategories: assessment during the program, institutional follow-up assessment, and employer assessment. The third category was program reactions including perceptions of achievement and attitudes about the program from faculty, students, graduates, employers, and external evaluators.

In the pupil growth category nine studies were reported from eight different institutions. Seven of these studies were positive, and two found both positive and "no difference" results. Only one program provided data that could be considered a long term growth study. Eight studies were conducted which were classified as short term growth studies.

There were thirty-one studies in which the attainment of competencies was assessed. Twenty-two found positive results, three found both positive and "no difference" results, two had "no difference" results only, and four had no conclusion. No programs provided employer assessment data. Only two conducted their own follow-up assessment of graduates.

Forty-five reports were found to have information concerning reactions and/or feedback on programs. Thirty-nine had generally positive feedback, four had mostly mixed reactions, and two were mostly negative.

DISCUSSION

Information Reported

The survey and literature search revealed a variety of types of studies and information regarding the effectiveness of competency-based teacher education programs. It is highly probable that this information represents a small percentage of the information being collected on these programs. For example, all CBTE type programs assess the ability of their trainees in terms of their attainment of the specified competencies, which is evidence of the effectiveness of the program to effectively deliver the specified objectives. Very little of this has been reported, although this may partially be due to programs not keeping formal records of competency achievement, rate of successful completion, or other evaluation of training materials and experiences. Nevertheless, it seems reasonable to assume that significantly more information exists.

It is noted that most of the information on CBTE programs is positive. Another way of stating this is that little negative information was reported. It may be that there is a tendency to report findings only when they are generally positive. There may be some reluctance to publicize any program which was not successful. The impact of the so called Hawthorne effect needs to be considered, as pointed out by Scriven.

> As long as you can coast along on the Hawthorne effect, that will work splendidly; but it is a disservice to everybody to suppose that you can disregard the extent to which you owe your success to that handy little booster (Scriven, 1974, p. 158).

The purpose of this paper is to report the findings on competency-based teacher education programs. This entailed a process of compiling available information into one report, but it did not involve an analysis of the research methodology in each of the studies reporting empirical data. Many studies were of questionable validity and this was pointed out whenever possible. The reader should investigate thoroughly any studies which are of interest. An analysis of these studies might be the topic of an entirely different paper.

Program Effectiveness

An initial question that needs consideration in a study of this nature is what one means by the term "effectiveness", that is, what types of data or information are acceptable. Looking at it in another way, recognizing that there exists a variety of types of information, how should it be appropriately categorized. There are various ways in which such information can be categorized, such as:

- Evaluation of program components (courses, field experiences, etc.)
- Instructional competence criteria (pupil growth, teacher performance of skills, or cognitive assessment)
- Stage or time at which data is collected (during coursework or module completion, during microteaching, during field experiences, and follow-up studies in the classroom)
- Sources of data (students, faculty, external evaluators)
- Type of data or means of collecting it (empirical research studies on pupil growth, research studies on demonstrated competency attainment, clerical records on rates of module completion, etc.)
- Subjective ratings of the program in any of these categories

An obvious first area to look at in terms of defining program effectiveness is whether or not trainees can positively affect pupil learning (broadly defined). This is the ultimate criterion of effectiveness. Another area which is part of the meaning of program effectiveness, is to evaluate the program as a training system, i.e., can it provide its trainees with the knowledge, skills, and attitudes which are defined as objectives of the program. Some would argue that since we don't know what skills, etc., affect pupil learning, then teacher education programs can only be evaluated in terms of their ability to provide trainees with the competencies the program developers believe are essential. This is the topic of another paper, however, and will not be considered further here.

A secondary consideration is the degree to which students, faculty, etc., found the program to be enjoyable and capable of meeting their needs. Presumably, if one enjoys an experience, morale will be high among both faculty and staff, more will be learned, and the program will more likely achieve its objectives. This factor will also contribute to the frequently cited humane atmosphere of the program and thus needs to be considered.

A host of other factors might enter into one's definition of program effectiveness. One such factor cited earlier, the degree to which a program is implemented in relation to its design, would be of interest in evaluating a program at a particular institution, but not necessarily in terms of the effectiveness of a particular conceptual approach to teacher education. The degree to which a program provides for individual needs, variety in modes of instruction, alternative objectives, degree of self-pacing, personlization, etc. have also been cited, but are more process type criteria and should all be reflected in terms of trainees' ability to teach or achieve an outcome criterion. These factors are also beyond the scope of this study and might better be examined in a theoretical discussion of program structure instead of outcomes.

Competency Validation

Another area of concern is the term competency validation. This also has several interpretations, the most meaningful being the verification of the relationship between the teaching competency and pupil outcomes. The more one knows about this the more effective the training program can become. The pupil growth studies category accounts for this type of validation, and hence serves as evidence of program effectiveness.

Another approach to competency validation is to involve a large number of practitioners and/or experts in reaching consensus on which competencies should be incorporated into the program. Assuming this consensus is correct, the program is thus more effective. Theoretical models and definitions of CBTE include such consensus activities in competency development, and hence one might assume this to be part of all, or most, CBTE programs, and thus need not be reported. On the one hand, it can be argued that unless there are data to relate the competencies to pupil growth there is no basis for assuming the competencies are of value, and thus there is no evidence that the program is more effective. Evidence of the consensus type was therefore not considered in this study although it is of value to individual programs.

Information Categories

The categories selected for this study are based on several of the classification strategies and meanings of program effectiveness discussed above. The effectiveness of trainees and/or graduates to promote pupil growth is of primary importance. There are at least three degrees of impact which provide unique information. The period of one semester or more of teacher-pupil contact was selected because it reflects teacher (program graduates) influence over a longer period of time, can use higher order cognitive criteria for pupil growth, and can also provide time for influence on pupil affective change. Remember that the term "pupil" refers to learners in the elementary and secondary schools. Since the contact period is longer it provides a more stable and representative sample of teacher behavior and avoids possible spurious short term effects. Teachers are not likely to be in contact with a given class for a period longer than one year, although a time sampling over a number of years with different classes would be of value.

Teacher influence on pupil learning as a result of short term contacts (less than one semester) is also of interest and it is more practical to collect data on these encounters. Student teaching which is generally less than one full semester (nationally, the student teaching average is twelve weeks - Johnson, 1968), minicourses, and microteaching are included here. It can be legitimately argued that teacher-pupil contact time is significantly different for these situations and separate categories are warranted, however, since little data were in the pupil growth area these studies were grouped together. Future studies might take these separate categories into consideration.

Pupil behavior is another indicator of teacher influence and implies, but is not evidence of, a pupil's growth. It is important to note that all three pupil growth subcategories, only those studies which provided data where growth or behaviors were actually measured were included here. There are other sources of information about pupil growth as it correlates with CBTE trained teachers, such as reactions and feedback from cooperating teachers and employers, but such descriptive information was categorized under the Program Reaction category.

The second main element in the meaning of "effectiveness" was ability of the program to deliver the defined competencies to trainees. Evidence that program trainees actually do attain the competencies was placed in this category, but again only data resulting from actual assessment were included. The different times that data are collected and the various sources of such information were used to determine subcategories. Assessment during the program takes place as the trainee works through the modules and/or completes coursework. Evaluation by faculty and cooperating teachers during field work is considered during the program. Follow-up studies included here are only those instances where institution staff actually observe and assess graduates' competency in the classroom. These instances are, of course, rare. A different source of information is employers, and here again only actual observation and assessment of competency was accepted in this category.

The Program Reaction category was divided on the basis of the source of information, i.e , faculty, trainees, graduates, cooperating teachers and employers, and external evaluators. Program reactions could relate to pupil growth and competency achievement, but being a more subjective than quantitative type of information, such feedback was placed under this broad category. Areas covered in program reactions also included opinions of the training experience, perceived achievement and competence, and evaluation of specific program components. If an employer reported he/she believed graduates of a CBTE program in general performed differently than those of other programs, but did not have eivdence of this through actual performance evaluations, the information belongs in the Program Reaction category.

CBTE Definition

The most serious issue in a discussion of the effectiveness of competency-based teacher education programs is one of definition of CBTE. In many cases evaluation data were collected on significantly different types of programs. Some have developed self-instructional learning units where students work at their own pace individually until they have completed the cognitive objectives. This has been labeled as CBTE. Another program offers a variety of instructional alternatives, including field experience for each competency as the essential ingredient. This is labeled as CBTE. Others have programs where demonstration of teaching skill is the essential component, and mastery of knowledge is only an enabler to achieve the competency. This type of program has been labeled as CBTE. Without the demonstration of performance, the program is not competency-based according to these individuals. Still others believe CBTE consists of a series of experiences and training materials, and believe it is not appropriate to call any training competency-based unless one is speaking of an entire program. Microteaching and minicourses are also reported as CBTE programs. This is no single type of CBTE program which can be used for comparisons.

There are those who maintain that a program must have modules to be competency-based. But here again there is a problem. Those self-contained instructional units referred to above are called modules in some programs. Others maintain that modules require performance demonstration. Still others describe their modules as having a variety of instructional alternatives within them leading to the competency. There is little consistency among these "modules." It was also found that modules were effective in some programs, but were not a viable approach in other programs. This may depend as much upon who is developing a program as what is being developed. A good teacher may be effective in either approach. Requiring modules as a criterion for CBTE does not contribute to clarifying the definition of CBTE unless modules are defined.

A variety of strengths and weaknesses were cited in these studies. In view of the variations in programs and individual faculties and instructors, these may be unique to those specific programs and cannot be related to a concept called competency-based teacher education. Much depends on the ability of developers to design appropriate materials, modules, etc., and opinions of these programs and materials probably reflect more the degree of instructors' design expertise than anything else. Any conclusions drawn about CBTE in general, therefore, are tenuous at best.

CONCLUSIONS

The studies reported in this paper are small in number and thus one cannot be certain that they accurately represent the status of findings in CBTE. Information on the effectiveness of competency-based teacher education has been reported by a number of institutions and it is continuously increasing.

Statements about CBTE in general or comparisons of the CBTE approach with other approaches cannot be made in the absence of a generally accepted definition of CBTE and a number of operational programs whose design is consistent with such a definition. A major problem with the information reported on competency-based teacher education programs is that CBTE is not the same from institution to institution. Since these programs differ in very significant ways, any conclusions drawn from the data about the concept of CBTE in general would be specious. This situation will probably continue to exist. It is most difficult to draw a conclusion about a program type when most of the programs have little real similarity when examining specific program elements. This also indicates that research on the comparison of CBTE and traditional programs would not appear to be very productive (unless on specific programs for a particular institution's purposes). Efforts should be directed toward finding which instructional activities enhance pupil learning.

These findings do not warrant conclusions about specific CBTE program aspects. An alternative is that it may be more appropriate to draw conclusions on specific aspects of programs which have a sufficient degree of similarity at a variety of institutions. Some examples are modules, field experiences based on competency demonstration, pre-specified precise objectives, self-pacing, personalization, alternative modes of instruction, etc. Even when considering specific aspects of programs, however, there is a problem of definition and hence consistency.

Conclusions about CBTE in general cannot be drawn from limited efforts which involve only specific aspects of CBTE. The concern is that programs may be employing only one technique which is associated with CBTE, and conclusions are being drawn about CBTE in general from these limited efforts. Consider, for example, a situation where students utilizing self-instructional materials are compared with students in a lecture course, and no differences are found in cognitive learning. Conclusion: the CBTE (or traditional) approach does not make a difference. It may be concluded from the example that it is not worth the effort to develop a CBTE program, or, on the other hand, it is a lot cheaper to have self-instructional materials and fewer professors when the results show no difference. In either case, the conclusion is obviously unwarranted. Aside from other concerns, self-instructional materials do not make a CBTE program (they may not even be considered modules). Also, focus on cognitive outcomes is not consistent with a "performance" based program.

The most advisable approach to evaluation of CBTE is to examine each program's components and evaluate each program in terms of its outcomes in determining effectiveness. First, the lack of uniformity among programs prevents a general evaluation of "CBTE." Second, the problem of definition is significant in terms of drawing conclusions about the CBTE approach in general, but what is the educational significance of such a dialogue? What difference does it make to a particular institution which is striving for a quality program and incorporating elements in its program which may or may not be consistent with a common definition of CBTE? The strengths and weaknesses identified in the reports described in this paper should be considered unique to those institutions and/or programs. In responding to effectiveness of CBTE, one needs to ask how the program has been defined and indeed which specific program is under consideration.

Any discussion of this topic should clearly identify the criteria of effectiveness being utilized. The classification system used in this study is one mechanism for analyzing information on CBTE program effectiveness. A study of the effectiveness of CBTE programs must deal not only with the problem of the definition of CBTE, but also with the meaning of program effectiveness. There are various ways in which effectiveness might be perceived.

It must be stated that no conclusion can be drawn concerning the effectiveness of CBTE in general from the data available at this time. The information reported here is mostly positive, but this might be expected. It is interesting to note that there appears to be little evidence in the literature on the effectiveness of traditional programs. Perhaps "traditional" is subject to definition concerns also. Nevertheless, in both instances it is clear that much remains to be done, and more data are needed. Usually in education research no general conclusions can be drawn, and this study is no exception. It can be said, however, that results are mixed, but basically encouraging (most are positive). Institutions may thus be encouraged to experiment in order to find those aspects or their type of CBTE program which are appropriate to their situation and institution. They should not, however, expect overnight or necessarily overwhelming success (a profound statement, it is like stating, as often is, that CBTE is not a panacea--but what is?).

It is concluded that the "CBTE" type programs reported which were carefully planned, thoroughly developed, appropriately revised based on feedback, and had faculty support, have had a reasonably high degree of success. Although under these conditions most programs of any type might be successful, this will depend on a variety of variables, most of which are unique to a given institution or program.

Finally, if any institution has information on "effectiveness" of its "CBTE" program and wishes to have it included in a future version of this compilation, that information would be most welcome.

SUMMARY OF EVIDENCE ON EFFECTIVENESS OF CBTE PROGRAMS

	EVIDENCE										
	Pupil Growth			Competency Attainment			Program Reactions				
INSTITUTION/STUDY	long term	short term	pupil behavior	during	follow-up	employer	faculty	trainees	graduates	coop. teach. & employers	external
American Association of Colleges for Teacher Education											X
Arizona State University							X	X			
Brigham Young University (Baird et al., 1972)									X		
Brigham Young University (Young and Baird)				X							
California State University-Hayward				X							
Central Michigan University (Bergeson)				X							
Central Michigan University (Meyer)								X			
Central Michigan University (Oana)				X				X			
East Tennessee State University							X	X			
Educational Testing Service							X				
Far West Laboratory				X							
Georgia, University of Ricker and Hawkins, 1969a)								X			
Georgia, University of (Ricker and Hawkins, 1969b)				X				X			
Governors State University								X			
Hartford, University of		X	X	X							
Illinois State University (Edwards a)				X							
Illinois State University (Edwards b)				X							

	EVIDENCE										
	Pupil Growth			Competency Attainment			Program Reactions				
INSTITUTION/STUDY	long term	short term	pupil behavior	during	follow-up	employer	faculty	trainees	graduates	coop. Teach. & employers	external
Illinois State University (McAteer and Lewis)				X							
Illinois State University (Waimon, Bell and Ramseyer)		X									
Illinois State University (Waimon and Ramseyer)		X		X							
Illinois State University (Wiseman)				X							
Indiana University		X		X							
Indiana University-Purdue University							X	X	X		
Johns Hopkins University				X							
Kansas, University of				X			X	X			X
McNeese State University											X
Michigan State University								X			
Michigan Survey							X	X		X	
Michigan, University of							X	X			
Milligan College				X			X	X			X
Mississippi State College							X	X			
Missouri, University of								X		X	
Nebraska, University of-Lincoln (Franke)		X		X							
Nebraska, University of-Lincoln (Hughbanks)				X				X			
Nebraska, University of-Lincoln (Kelly & Walter)				X				X	X		
Nebraska, University of-Lincoln (Larson)				X				X			

EVIDENCE

INSTITUTION/STUDY	Pupil Growth			Competency Attainment			Program Reactions				
	long term	short term	pupil behavior	during	follow-up	employer	faculty	trainees	graduates	coop. Teach. & employers	external
Nebraska, University of-Omaha				X				X			
Nevada, University of-Reno								X	X		
New Mexico State University				X							
New York, State University of-Cortland				X	X			X	X		
New York, State University of-Fredonia				X				X			
North Florida, University of								X	X	X	X
Northeast Missouri State University							X	X		X	
Queens College-CUNY				X			X	X		X	
Saint Teresa, College of							X	X			
Southern Colorado State College								X			
Southern Mississippi, University of				X				X			
Teacher Corps	X				X						
Temple University (Adamsky)				X			X	X		X	
Temple University (Bruce)		X		X							
Texas A & M University				X				X			
Texas, University of-El Paso								X			
Toledo, University of								X	X		
Towson State College								X		X	
Upsala College		X						X		X	

INSTITUTION/STUDY	EVIDENCE Pupil Growth long term	short term	pupil behavior	Competency Attainment during	follow-up	employer	Program Reactions faculty	trainees	graduates	coop. Teach. & employers	external
Utah, University of		X									
Wayne State University (Johnson)								X		X	
Wayne State University (Sie)								X			
Weber State College							X	X	X	X	X
Western Kentucky, University of								X			
Wheeling College							X	X		X	
Wisconsin, University of LaCrosse				X				X			
Wisconsin, University of-Superior							X	X			

INDEX TO INSTITUTIONS

INSTITUTION/STUDY	PAGES
American Association of Colleges for Teacher Education	32
Arizona State University	31
Brigham Young University	11, 21
California State University	13
Central Michigan University	12, 28
East Tennessee State University	32
Educational Testing Service	32
Far West Laboratory	15
Georgia, University of	14, 20
Governors State University	32
Hartford, University of	8, 11
Illinois State University	6, 12, 15
Indiana University	6, 16
Indiana University-Purdue University	31
Johns Hopkins University	15
Kansas, University of	10, 19
McNeese State University	30
Michigan State University	22
Michigan, University of	32
Milligan College	9, 30
Mississippi State College	25
Missouri, University of	31

INDEX TO INSTITUTIONS

INSTITUTION/STUDY	PAGES
Nebraska, University of Lincoln	6, 10, 17
Nebraska, University of Omaha	10, 24
Nevada, University of Reno	27
New Mexico State University	13
New York, State University of Cortland	9, 21
New York, State University of Fredonia	9, 29
North Florida, University of	22
Northeast Missouri State University	23
Queens College-CUNY	14, 26
Rhode Island College	30
Saint Teresa, College of	24
Southern Colorado State College	26
Southern Mississippi, University of	13, 30
Teacher Corps	5, 8
Temple University	7, 11, 13, 18
Texas A & M University	11, 20
Texas, University of El Paso	24
Toledo, University of	21
Towson State College	31
Upsala College	6, 30
Utah, University of	7
Wayne State University	27
Weber State College	20

INDEX TO INSTITUTIONS

INSTITUTION/STUDY	PAGES
Western Kentucky, University of	25
Wheeling College	16
Wisconsin, University of-LaCrosse	14, 26
Wisconsin, University of-Superior	23

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